Ameren Illinois Company d/b/a
Ameren Illinois

MODERNIZATION ACTION PLAN

Infrastructure Investment Program

2012 – 2021

April 1, 2016

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Executive Summary

Plan Overview

On January 3, 2012, Ameren Illinois Company ("AIC") filed its proposed performance-based formula rate, Modernization Action Plan - Pricing ("Rate MAP-P"), with the Illinois Commerce Commission ("Commission") pursuant to Section 16-108.5 of the Public Utilities Act ("Act"). The Commission commenced Docket No. 12-0001 to review that filing. In making that filing, AIC confirmed that it elected to become a "participating utility", and committed to undertake the investments described in Section 16-108.5(b). Section 16-108.5(b) also required AIC, within 60 days of such filing, to submit a plan for satisfying its infrastructure investment program commitments, which included information regarding scope, schedule and staffing, as well as certain information about its Smart Grid Test Bed Plan. Accordingly AIC submitted on March 2, 2012 its Modernization Action Plan for 2012-2021.

Section 16-108.5 (b) also requires, that no later than April 1 of each subsequent year, the utility submit to the Commission a report that includes any updates to the Plan, a schedule for the next calendar year, the expenditures made for the prior calendar year and cumulatively, and the number of full-time equivalent jobs created for the prior calendar year and cumulatively. Thus, for each year for the life of the Plan, a revision is to be submitted on or before April 1st.

Accordingly, AIC submits to the Commission this revised Infrastructure Investment Program, hereafter referred to as the "Plan". The Plan organizes individual projects under two broad categories of investment. AIC has further broken these categories down into six more detailed areas.

Infrastructure & Modernization Investments: This section of the Plan sets forth electric system upgrades, modernization projects, and training facilities. AIC has further broken these investments into two subcategories:

A. Infrastructure Improvements

B. Training Facilities

Smart-Grid Related Investments: This section of the Plan describes the Smart Grid electric system upgrades, as well as AIC's Smart Grid Test Bed Plan. AIC has further broken these investments into four subcategories:

A. Distribution Automation

B. AMI

C. Volt/VAR Optimization

D. Software and Technology Enhancements

This Plan includes an estimated cumulative total of $282.5 million of capital investment plus associated expenses in electric system upgrades, modernization projects, and training facilities over the planned ten year period plus the permitted ramp up and ramp down time. The Plan also includes an estimated cumulative total of $370.5 million of capital investment and associated expenses in Smart Grid electric system upgrades over the planned ten year period plus the permitted ramp up and ramp down time.

As required by Section 16-108 (b), the total estimated $653 million of cumulative capital investment under this Plan will be incremental to AIC's annual capital investment program. That is, as part of the Plan, AIC will invest an estimated cumulative total of $653 million more in capital than a capital investments program that invested at an annual rate defined by AIC's average capital spend for calendar years 2008, 2009, and 2010, as reported in AIC's applicable Federal Energy Regulatory Commission ("FERC") Form 1s.

If the forecasted incremental capital investment costs, as outlined in this Plan, are expected to exceed $720 million, a report will be submitted to the Commission that identifies the increased costs and explains the reasons. The report shall be submitted no later than the year in which the Plan's forecasts will exceed incremental capital investment costs of $720 million. In no case will $720 million in incremental capital investment costs as outlined in the Plan be exceeded without the approval of the General Assembly.

The information provided within the Plan details the investments AIC made in 2012-2015, and is illustrative of the investments that AIC currently proposes to make in 2016–2021 pursuant to Section 16-108.5 of the Act. All investments and amounts shown are subject to revision as AIC refines and adapts its Plan in light of future analysis, findings and circumstances. The work may evolve from that originally planned; and planned schedules may be either accelerated or delayed. Implementation of the Plan may also require either fewer or more units of work at lower or higher cost, even if the scope and timing of the planned work does not change. Such occurrences shall not imply the imprudence or unreasonableness of the Plan, including, but not limited to, its programs, cost or schedule.

As with any long range forecast, uncertainty increases as the planning horizon is extended. Although these estimates are made with currently available information, they are expected to change over the course of the program as new information becomes available, and based on actual results.

At this time, due to the length in time of the Plan, detailed engineering has not been completed on the many of the identified programs. Therefore the costs of many of the specific individual projects are unknown. Instead AIC has used past experience and research to approximate the expected average cost of each unit for each program. The capital costs and associated installed units shown in this Plan are derived from these estimates. In subsequent Plan submittals, it is likely the number of units proposed to be installed each year and the dollars so allocated will change as detailed engineering is completed on specific projects.

In the event that Section 16-108.5 becomes inoperative or MAP-P is terminated, then the Plan, including but not limited to all programs and investments, will also become inoperative and terminate immediately, which is permitted by law.

Summary Plan Scope

For the purpose of this Plan, the following terminology is used for standard reference.

1. High Voltage Distribution – Equipment typically operating at a voltage greater than 15kV but less than 100kV.
2. Primary Distribution – Equipment typically operating at a voltage greater than 600V but less than or equal to 15kV.

Infrastructure & Modernization

A. ***Infrastructure Improvements.*** These programs include, but are not limited to, the following list. A detailed description of each is set forth in Section 1.

1. Replace Primary Distribution Reclosers
2. Substation Animal Protection
3. Bulk Substation Improvements
4. Distribution Substation Transformer Reserve
5. Tie Capability - Line 6973
6. Substation Low Side Auto Transfer
7. High Voltage Distribution Pole Reinforcement
8. Replace High Voltage Distribution Breakers
9. Spacer Cable Program
10. Rebuild Primary Distribution Lines
11. Primary Distribution Lines Capacity Additions
12. Bulk Transformer Outage Mitigation
13. Rebuild High Voltage Distribution Lines
14. Expand Bulk Supply Substations
15. Underground Primary Distribution Cable
16. System Ties Primary Distribution Lines
17. CERT (Customers Exceeding Service Reliability Targets) Remediation

These programs are planned to be completed over the ten-year period, plus reasonable ramp up and ramp down periods. More detailed descriptions of each of these programs including scope, schedule, incremental capital investment projections, and staffing are included in Section 1 of this document.

B. **Training Facilities** – This program provided for the purchase and renovation of a training facility in the Belleville area to facilitate electric, relay and smart grid training. This facility consists of indoor and outdoor training space that will provide state of the art classroom facilities in addition to hands-on training with physical equipment. The program also included the capital investments necessary to enhance our current electric training facility in Decatur.

A more detailed description of this program including scope, schedule, incremental capital investment projections, and incremental staffing are included in Section 2 of this document.

Smart Grid

A. ***Distribution Automation*** - These programs include, but are not limited to, the following:

1. Primary Distribution Automation
2. Communication Infrastructure
3. High Voltage Distribution Relaying
4. Distribution Substation Metering
5. High Voltage Distribution Automation
6. Smart Grid Test Bed
7. Underground Network Modernization
8. Distributed Energy Resource Integration

Descriptions of each of these programs, including scope, schedule, incremental capital investment projections, incremental staffing and units of work are included in Section 3 of this document.

B. **Advanced Metering Infrastructure (AMI)** - At the completion of this program, 62% of the retail meters on the AIC distribution system will have been replaced with Smart Meters. This program includes deployment of an Advanced Metering Infrastructure (AMI), which provides a two-way communications infrastructure to support other customer services. Expected benefits include reductions in estimated electric bills, reduced consumption on inactive electric meters, and reduction in uncollectable expenses. . The projected AMI capital investments in this Plan are based on an electric allocated apportionment of the AIC total AMI Plan. More specific information can be found in the most recent AMI Plan update report submittal.

C. ***Volt/VAR Optimization*** **–** This program includes, but is not limited to, the following list.

1. High Voltage Distribution Volt/VAR Control
2. Primary Distribution Volt/VAR Control.

Descriptions of each of these programs, including scope, schedule, incremental capital investment projections, incremental staffing and units of work are included in Section 5 of this document.

D. ***Software and Technology Enhancements* -** These programs include, but are not limited to, the following descriptive list.

1. Advanced Distribution Management System (ADMS)
2. Distribution Engineering Workstation (DEW) Replacement

Descriptions of each of these programs, including scope, schedule, incremental capital investment projections, incremental staffing and units of work are included in Section 6 of this document.

Components of the Plan and programs' scopes and priorities may evolve and be revised. These revisions will be consistent with requirements of the Act, and will be initiated over the course of the investment period as new information is obtained and AIC refines and adapts its Plan in light of that information and other future developments.

Summary Plan Schedule

The program schedule explains when each program is planned to start and end. Most schedules represent a rolling year plan, containing the number of units estimated to be installed. It is recognized that scope priorities will be adjusted over the course of the programs as new information is obtained. A reasonable ramp up and ramp down period is assumed for each program schedule.

The entire Plan covers the ten-year time period. The years prior to the current year are reported as actuals. The current and future years are reported as projected. All program areas are planned for completion within ten years. All time periods are allowed to add a reasonable ramp up and ramp down period.

Summary Plan Capital Investments

The program projection identifies the estimated annual incremental capital investments for each program. The Plan investment total is estimated to be $653 million in incremental capital investments plus associated expenses. As prescribed by the Act, the estimated $653 million of capital investment under the Plan must be incremental to AICs annual capital investments, which the Act defines as AIC's "average capital spend for calendar years 2008, 2009, and 2010 as reported in the applicable FERC Form 1." 220 ILCS 5/16-108.5(b). The annual electric distribution (excluding transmission) capital investments for calendar years 2008, 2009, and 2010 are $245.6 million, $249.5 million, and $190.2 million, respectively, as reflected in the statement of cash flows from each year's respective FERC Form 1. This results in an annual baseline of $228.4 million, derived by summing $245.6 million, $249.5 million, $190.2 million, and then dividing the total of $685.3 million by 3. Thus, the baseline, over the ten year period is $228.4 million.

Throughout this document, 2012-2015 information represents the known and measurable capital investment, full-time equivalent ("FTE") employees, and unit installed at the time of this submittal.

Summary Plan Staffing

Program staffing identifies the annual incremental FTE employees required for completion of program scope of work. (See Appendix A) The 2012-15 actual FTEs reported are those that meet the reporting requirements of the Act. The actual number of FTEs required to complete the identified scope of work may have been greater.

Estimated worker-hours are composed primarily of:

1. Worker-hours charged directly to work orders associated with specific scopes of work
2. Worker-hours charged on timesheets in support of the Plan
3. Supporting staff such as clerical, stores, fleet, supervision, etc. through indirect overheads

Worker-hours charged on timesheets in support of the Plan and man-hours through indirect overheads have been allocated to the specific scopes of work proportionally, based on the estimated worker-hours charged to work orders for specific scopes of work. The estimated FTEs shown in the Plan do not include any induced FTEs.

Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision, and craft. FTEs are not defined as employee head counts, and should not be confused with employment levels and trends.

Summary Plan Quantity of Units

The program quantity of units describes the estimated number of work units, where applicable, that are planned to be completed each year for the program area. Units of work for each program are discussed, as applicable, in that program's respective section of the Plan.

Submission of Additional Information

This Plan also includes, for informational purposes, a 2015 Annual Jobs Creation Report, a detailed investment plan for the calendar year 2016 investments ("2016 Plan"), and a summary of Additional Voluntary Tracking Metrics included as Attachments 1, 2, and 3, respectively, to this document. The annual 2016 Plan provides more detailed information on scope, schedule, incremental capital investment projections, incremental staffing, and units of work that are planned to be completed in the calendar year in association with the Plan.

SECTION 1: Infrastructure Improvements

SECTION 1.A: Replace Primary Distribution Substation Reclosers

1.A.1: Program Scope

AIC has over 1,200 primary distribution reclosers. As of 2012, over 600 3-phase reclosers were designed for 3-phase tripping. Replacement of the designated 3-phase tripping devices with 1-phase modern tripping devices will allow the flexibility of single phase tripping and reclosing while providing tighter fault coordination with other upstream and downstream protective devices. Benefits include better fault coordination, less customer exposure to momentary faults, isolation of fewer customers for permanent single phase faults, and possible integration with auto isolation/transfer schemes.

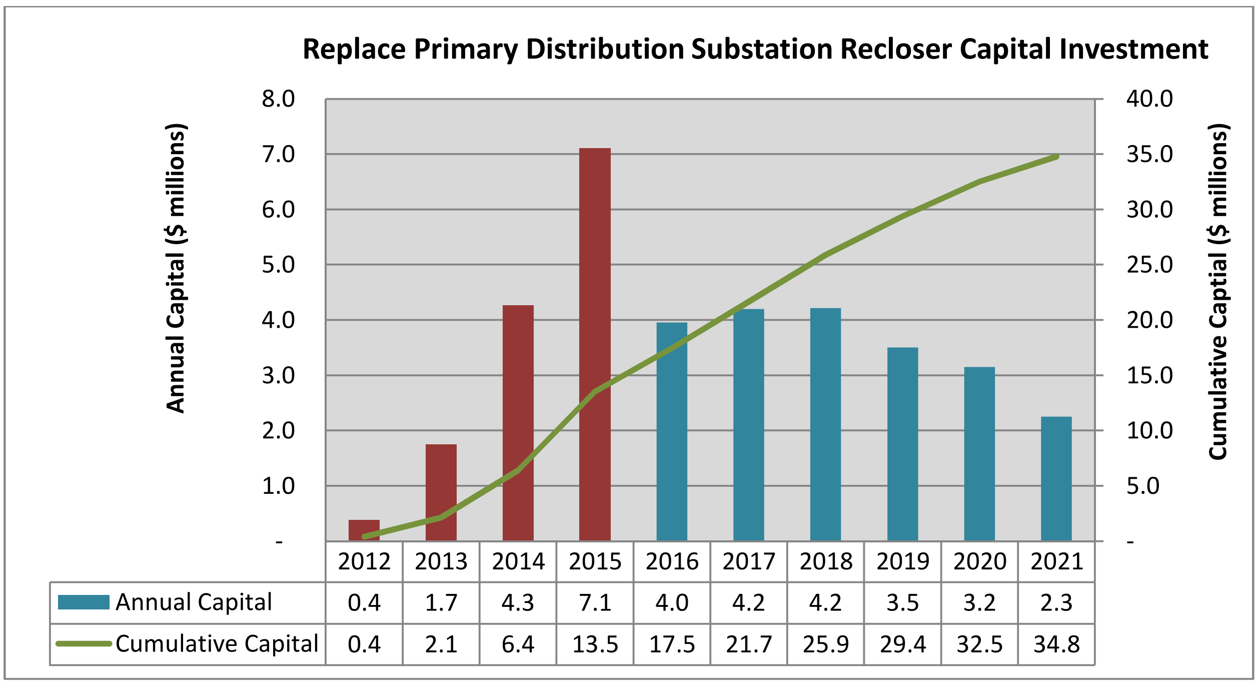
The recloser/breakers will generally be selected on the basis of:

1. Greatest number of customers
2. Single phase tripping acceptability
3. Criticality of load
4. Maintenance history of recloser
5. Fault duty
6. Upcoming scheduled recloser maintenance
7. Workload management.

1.A.2: Program Capital Investments

Figure 1.A.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Replace Primary Distribution Substation Reclosers program. In 2012-15, AIC invested $13.5 million in the program. In total, AIC estimates the program investment to be $34.8 million in incremental capital investment plus associated expenses over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure 1.A.2: Replace Primary Substation Recloser Capital Investments

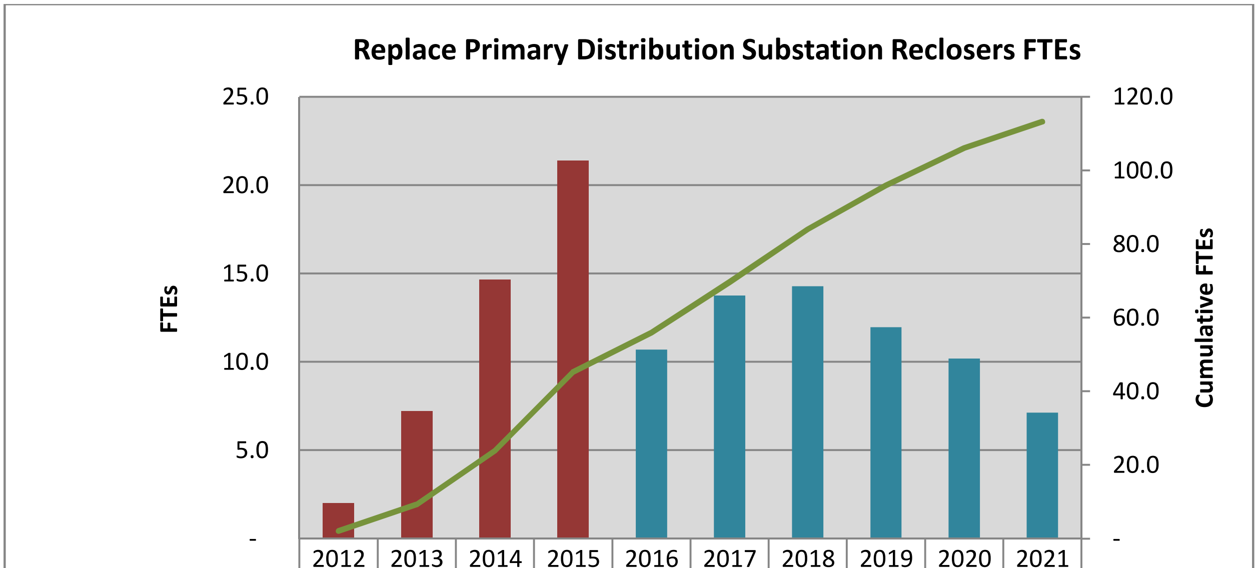


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.4	1.7	4.3	7.1	4.0	4.2	4.2	3.5	3.2	2.3
Cumulative Capital	0.4	2.1	6.4	13.5	17.5	21.7	25.9	29.4	32.5	34.8

1.A.3: Program FTEs

Figure 1.A.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 45.2 FTEs for this program in 2012-15 with 113.2 FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.A.3: Replace Primary Substation Reclosers FTEs

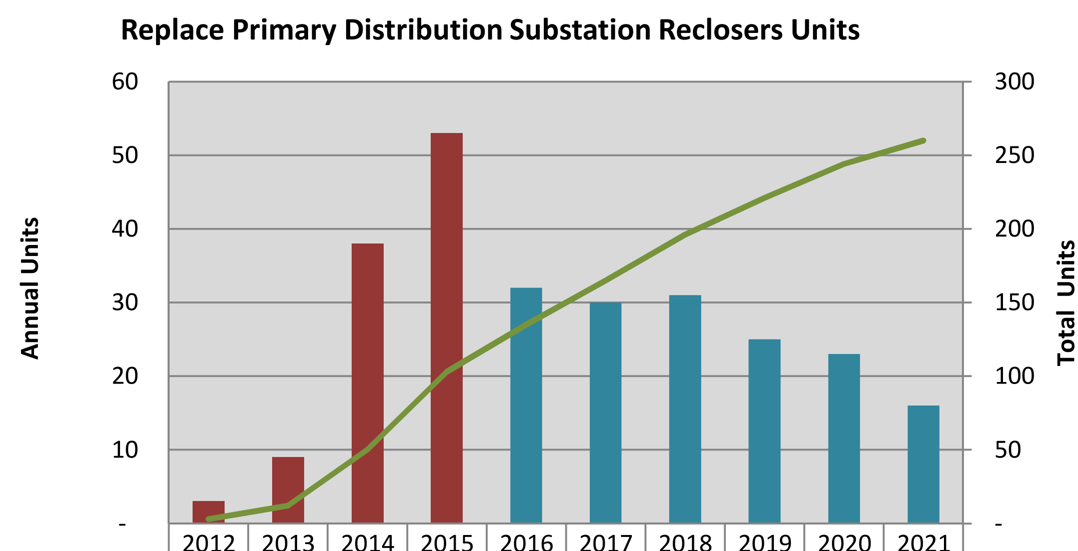


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	2.0	7.2	14.6	21.4	10.7	13.7	14.3	12.0	10.2	7.1
Cumulative FTEs	2.0	9.2	23.9	45.2	55.9	69.7	83.9	95.9	106.1	113.2

1.A.4: Program Schedule/Units

Figure 1.A.4 shows the number of reclosers that were replaced in 2012-15, and the numbers projected to be replaced in 2016-21. In 2012-15 there were 103 units replaced under this program. In total, 260 units are projected to be replaced in 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are reclosers replaced.

Figure 1.A.4: Replace Primary Substation Recloser Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	3	9	38	53	32	30	31	25	23	16
Cumulative Units	3	12	50	103	135	165	196	221	244	260

SECTION 1.B: Substation Animal Protection

1.B.1: Program Scope

This program will improve animal protection for distribution substations by the installation of electrical or passive animal fences. The benefits of this program are an expected reduction in damage to substation equipment and customer outages directly related to animals such as squirrels and raccoons.

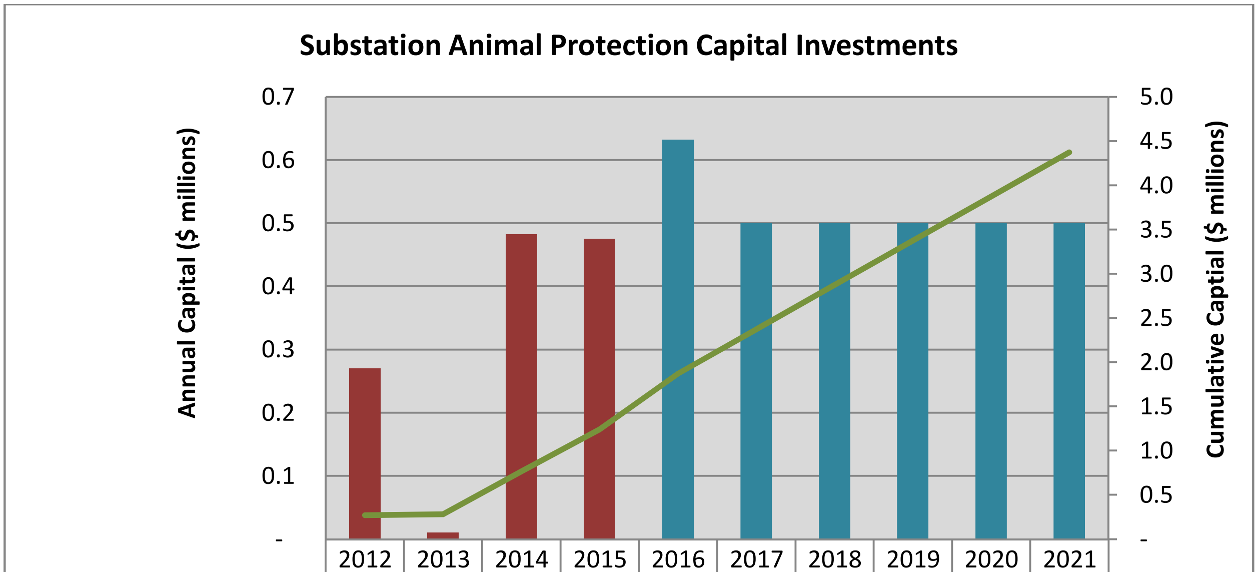
The substations intended to have animal fences installed were generally selected by the following criteria:

1. Greatest number of customers
2. Criticality of the load
3. Outage history
4. Site evaluation
5. Workload management

1.B.2: Program Capital Investments

Figure 1.B.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Substation Animal Protection program. In 2012-15, AIC invested $1.2 million in the program. In total, AIC estimates the program investment to be $4.4 million in incremental capital investment, plus associated expenses over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure 1.B.2: Substation Animal Protection Capital Investments

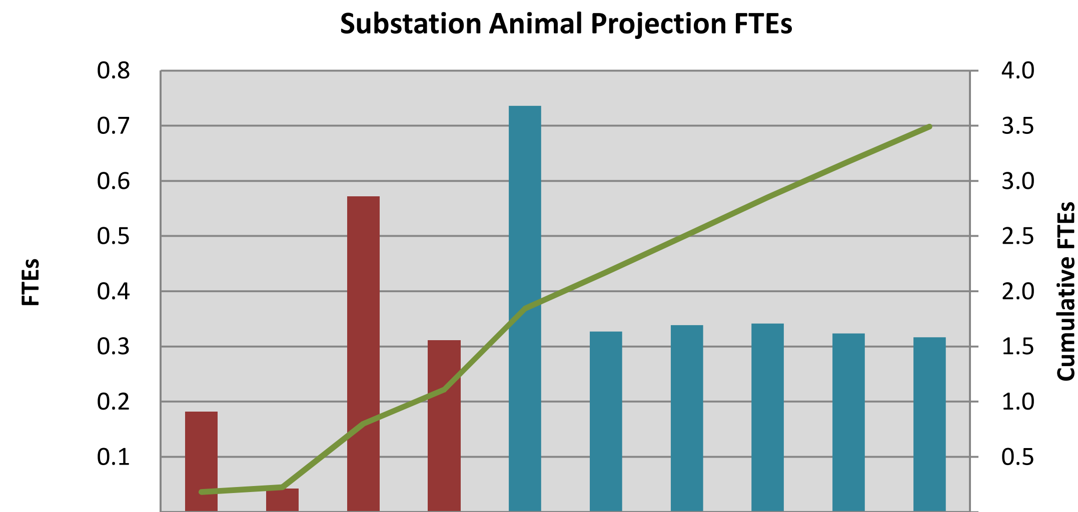


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.3	0.01	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5
Cumulative Capital	0.3	0.3	0.8	1.2	1.9	2.4	2.9	3.4	3.9	4.4

1.B.3: Program FTEs

Figure 1.B.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 1.1 FTEs for this program in 2012-15 with 3.5 FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.B.3: Substation Animal Protection FTEs

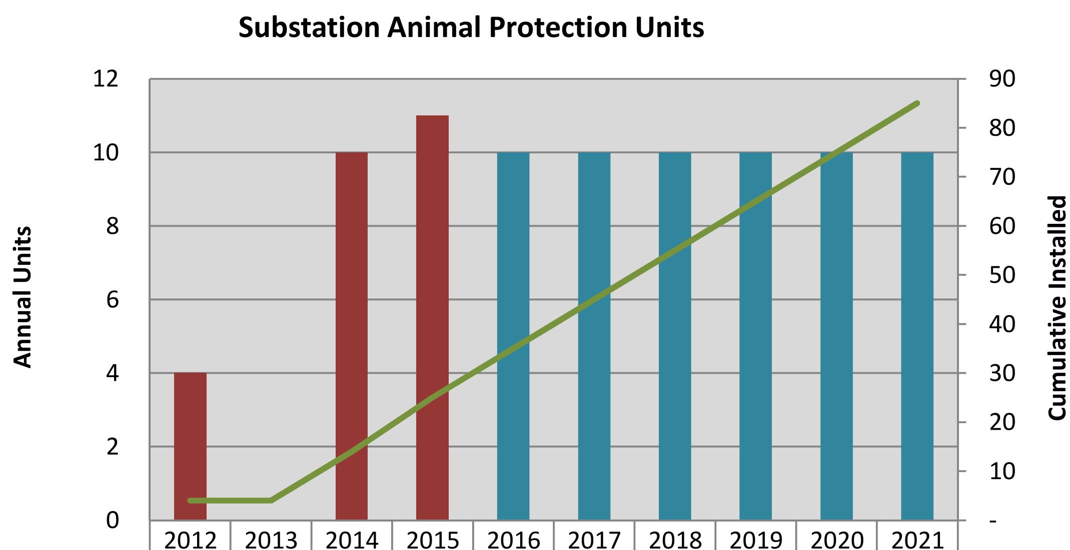


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	0.2	0.0	0.6	0.3	0.7	0.3	0.3	0.3	0.3	0.3
Cumulative FTEs	0.2	0.2	0.8	1.1	1.8	2.2	2.5	2.9	3.2	3.5

1.B.4: Program Schedule/Units

Figure 1.B.4 shows the estimated number of animal fences installed in 2012-15 and the animal fences projected to be installed from 2016-21. In 2012-15 there were 25 units installed under this program. In total, 85 units are projected to be installed in from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown below are substations.

Figure 1.B.4: Substation Animal Protection Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	4	-	10	11	10	10	10	10	10	10
Cumulative Units	4	4	14	25	35	45	55	65	75	85

SECTION 1.C: Bulk Substation Improvements

1.C.1: Program Scope

This program will improve selected bulk supply substations to minimize large double bus outages due to single contingencies. A bulk substation is a substation that steps down voltage levels from transmission to high voltage distribution. A common example in the AIC system is a substation that steps down the voltage from 138kV to 69kV.

An example of improving a bulk substation is the addition of a low side (34/69kV) bus tie circuit breakers or adding high side transformer breakers with additional zones of protection. AIC has approximately one hundred bulk supply substations with more than one transformer. A significant number of stations are configured without low side (34 or 69kV) tie breakers. These stations are often operated with one low side sub-transmission bus connected to two bulk supply transformers or in some cases with the low side sub-transmission bus split. The result is a single contingency outage that can cause a loss of two high voltage distribution buses. The additional zones of protection would allow a transformer fault to be isolated automatically without extended customer outages under normal loading conditions.

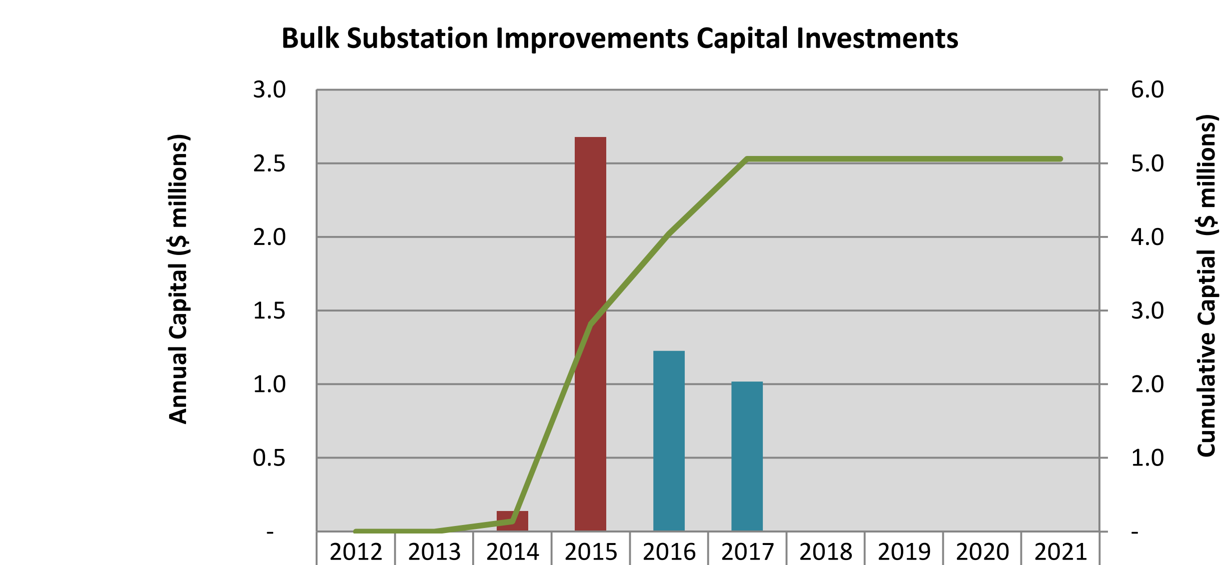
The stations would be generally selected based on:

1. Criticality of load
2. Number of connected customers
3. Improvements in operating flexibility

1.C.2: Program Capital Investments

Figure 1.C.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Bulk Substation Improvement program. In 2012-15, AIC invested $2.8 million in the program. In total, AIC estimates the program investment of $5.1 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure 1.C.2: Bulk Substation Improvements Capital Investments

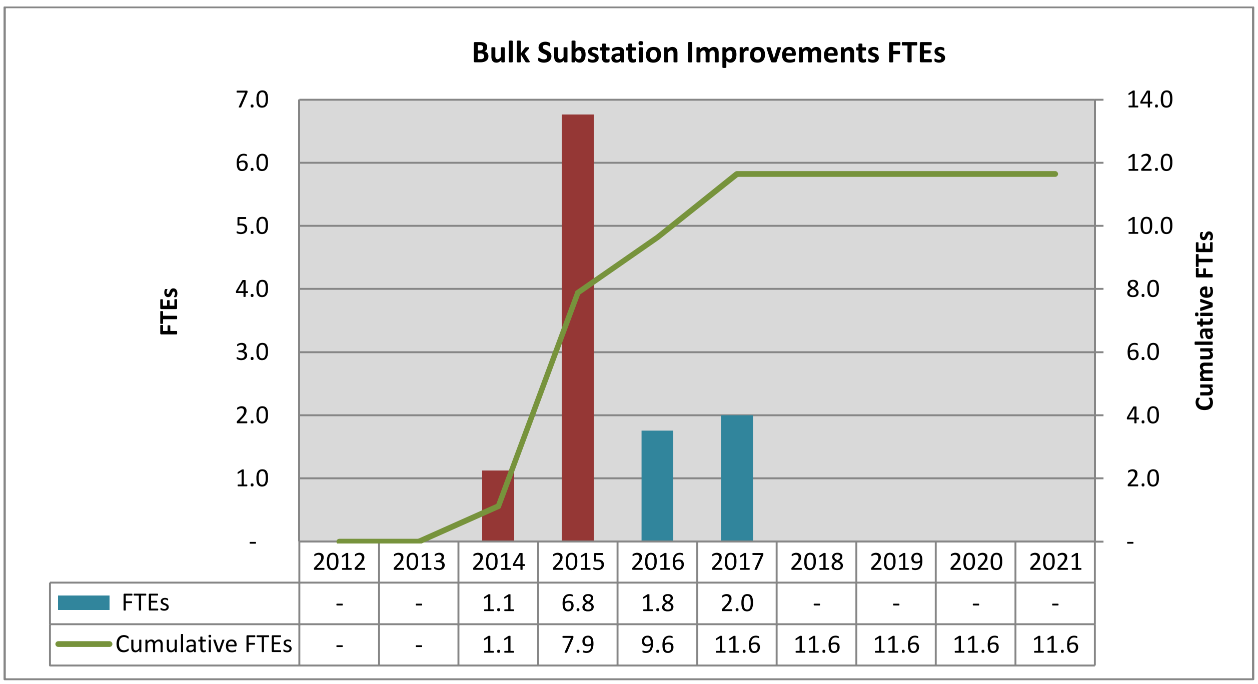


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	-	0.1	2.7	1.2	1.0	-	-	-	-
Cumulative Capital	-	-	0.1	2.8	4.0	5.1	5.1	5.1	5.1	5.1

1.C.3: Program FTEs

Figure 1.C.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 7.9 FTEs for this program in 2012-15, with 11.6 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.C.3: Bulk Substation Improvements FTEs

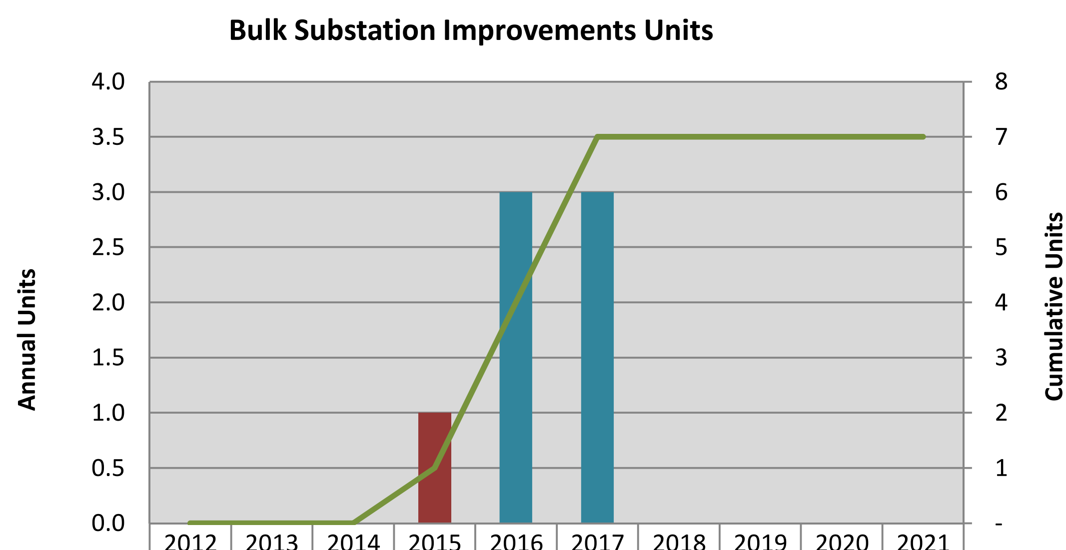


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	-	1.1	6.8	1.8	2.0	-	-	-	-
Cumulative FTEs	-	-	1.1	7.9	9.6	11.6	11.6	11.6	11.6	11.6

1.C.4: Program Schedule/Units

Figure 1.C.4 shows the number of bulk supply substations projected to be improved. In 2012-15 there was 1 unit installed under this program. In total, 7 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown below are projects.

Figure 1.C.4: Bulk Substation Improvements Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	-	-	1	3	3	-	-	-	-
Cumulative Units	-	-	-	1	4	7	7	7	7	7

SECTION 1.D: Distribution Substation Transformer Reserve

1.D.1: Program Scope

This program will add distribution substation transformer reserve to select substations by, but not limited to, a combination of the following.

1. Adding a second transformer
2. Upgrading transformers in multi-unit substations
3. Re-enforcing existing distribution feeder ties
4. Constructing new distribution feeder ties

Expected benefits include, but are not limited to, reduced outages during a single transformer protection zone fault and increased operating flexibility to perform maintenance functions.

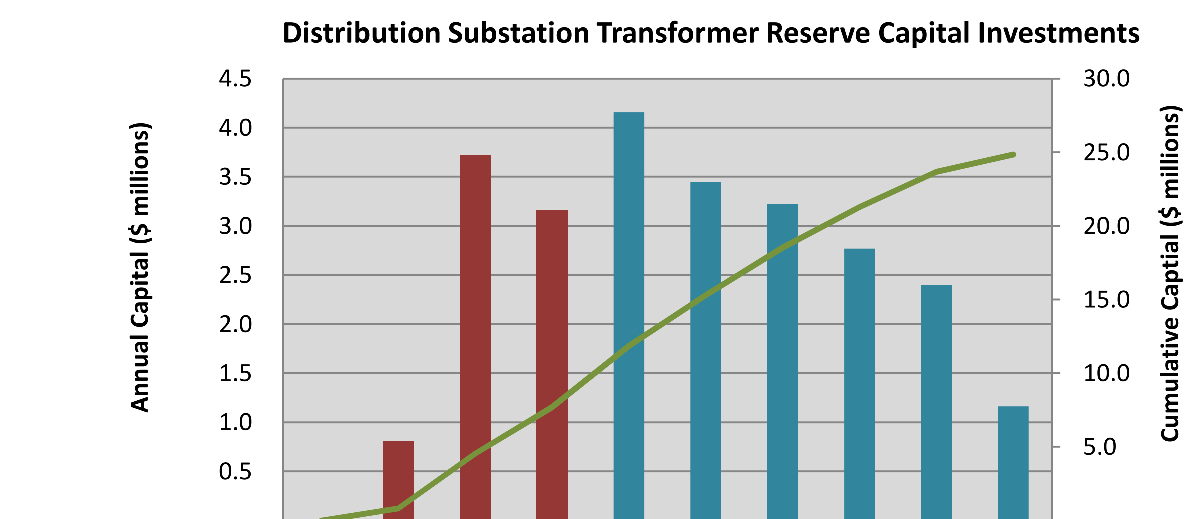
The stations will be generally selected based on:

1. Load transfer capability
2. Number of connected customers

1.D.2: Program Capital Investments

Figure 1.D.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Distribution Substation Transformer Reserve program. In 2012-15, AIC invested $7.7 million in the program. In total, AIC estimates the program investment to be $24.8 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure 1.D.2: Distribution Substation Transformer Reserve Capital Investments

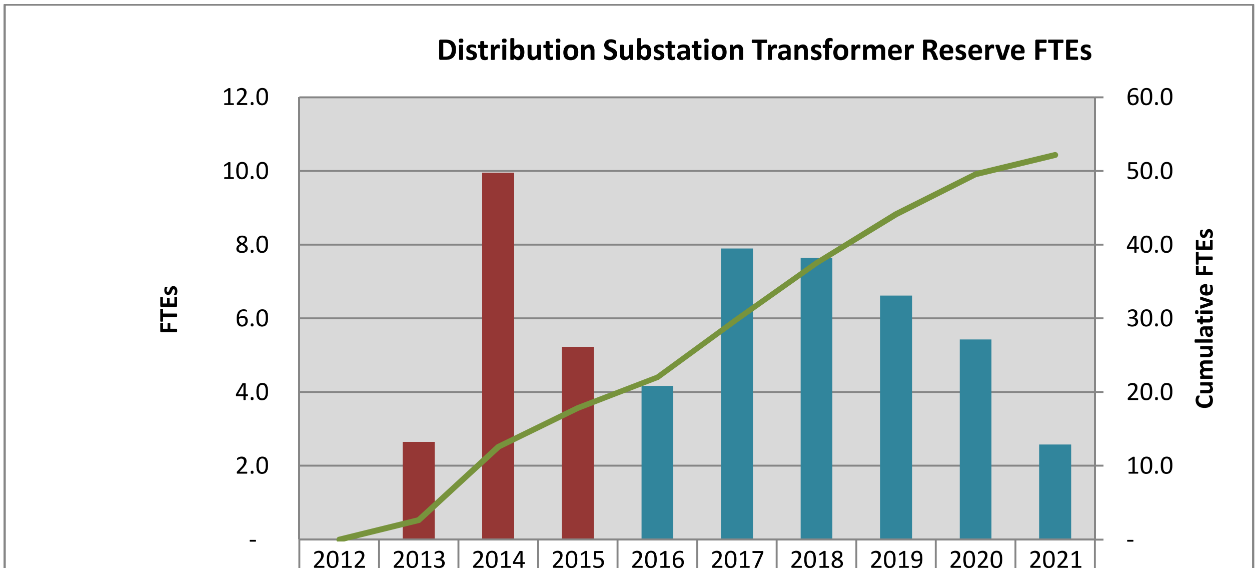


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	0.8	3.7	3.2	4.2	3.4	3.2	2.8	2.4	1.2
Cumulative Capital	-	0.8	4.5	7.7	11.8	15.3	18.5	21.3	23.7	24.8

1.D.3: Program FTEs

Figure 1.D.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 17.8 FTEs for this program in 2012-15 with 52.1 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.D.3: Distribution Substation Transformer Reserve FTEs

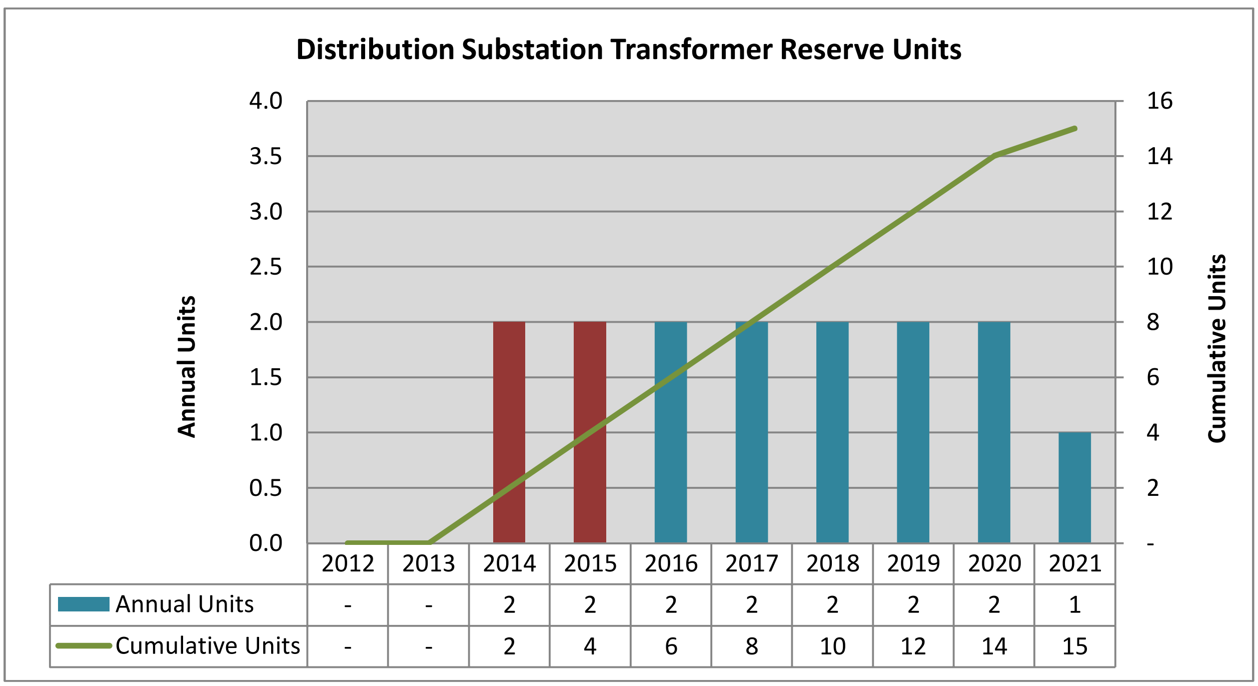


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	2.6	10.0	5.2	4.2	7.9	7.6	6.6	5.4	2.6
Cumulative FTEs	-	2.6	12.6	17.8	22.0	29.9	37.5	44.1	49.6	52.1

1.D.4: Program Schedule/Units

Figure 1.D.4 shows the projected number of distribution substations to have transformer reserve installed. In 2012-15 there were 4 units installed under this program. In total, 15 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are locations for 2012-13, and projects for 2014-2021.

Figure 1.D.4: Distribution Substation Transformer Reserve



SECTION 1.E: Tie Capacity - Line 6973

1.E.1: Program Scope

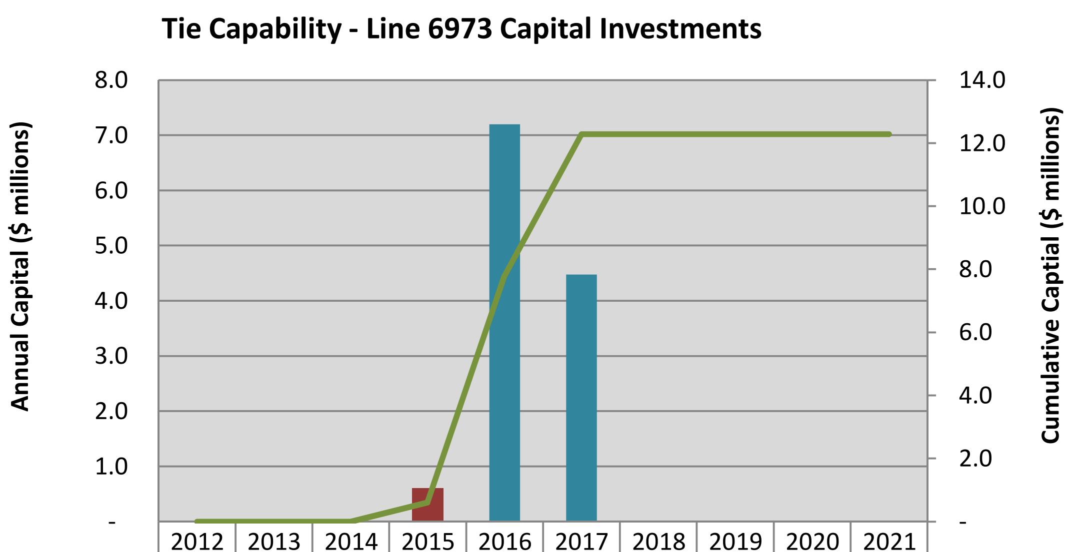
This program will implement system upgrades needed to provide a reserve tie or loop feed with 69 kV high voltage distribution Line 6973, which is a radial line serving a peak load of roughly 42 MVA. This line originates at the Bush substation and serves the following substations: Morton-Cat, North Morton, Central, Southwood, Tazewell, Mindale, Armington, Burt, and Corn Belt Hoopdale.

The scope of work required will include building a new bulk supply substation and reconductoring several miles of 69 kV line.

1.E.2: Program Capital Investments/Schedule

Figure 1.E.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Tie Capacity for Line 6973. In 2012-15, AIC invested \$0.6 million in the program. In total, AIC estimates the program investment to be \$12.3 million, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.E.2: Tie Capacity - Line 6973 Capital Investments

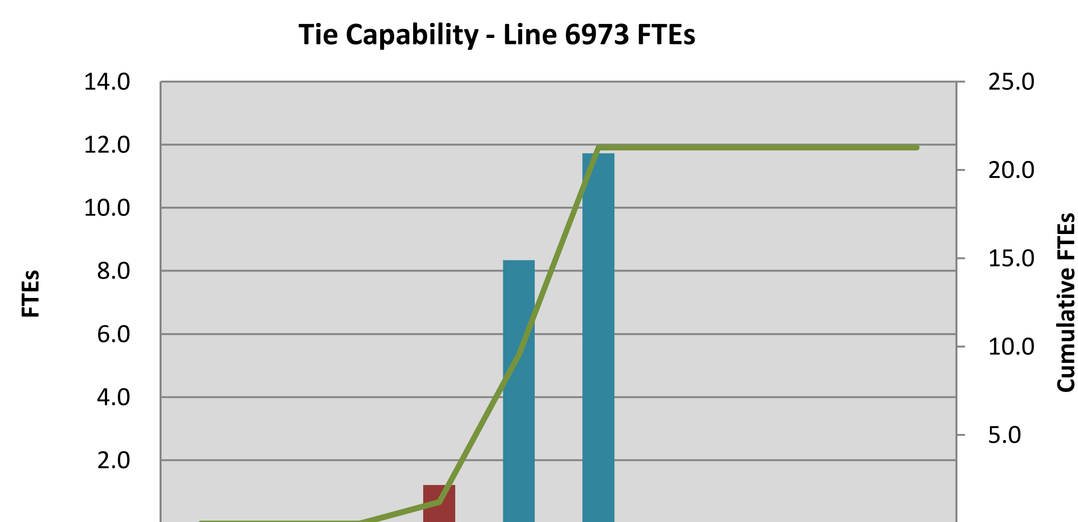


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	-	-	0.6	7.2	4.5	-	-	-	-
Cumulative Capital	-	-	-	0.6	7.8	12.3	12.3	12.3	12.3	12.3

1.E.3: Program FTEs

Figure 1.E.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 1.2 FTEs for this program in 2012-15, with 21.3 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.E.3: Tie Capacity for Line 6973 FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	-	-	1.2	8.3	11.7	-	-	-	-
Cumulative FTEs	-	-	-	1.2	9.5	21.3	21.3	21.3	21.3	21.3

SECTION 1.F: Substation Low Side Auto Transfer

1.F.1: Program Scope

This program will add low side 12kV tie breakers to allow automatic low side transfer in some larger distribution substations with two or more transformers. AIC has over 150 substations 34 or 69kV high side, > 10.0 MVA with more than one transformer. A large percentage of these stations have no automatic transfer to the alternate transformer and/or bus in the event of a transformer protection zone fault.

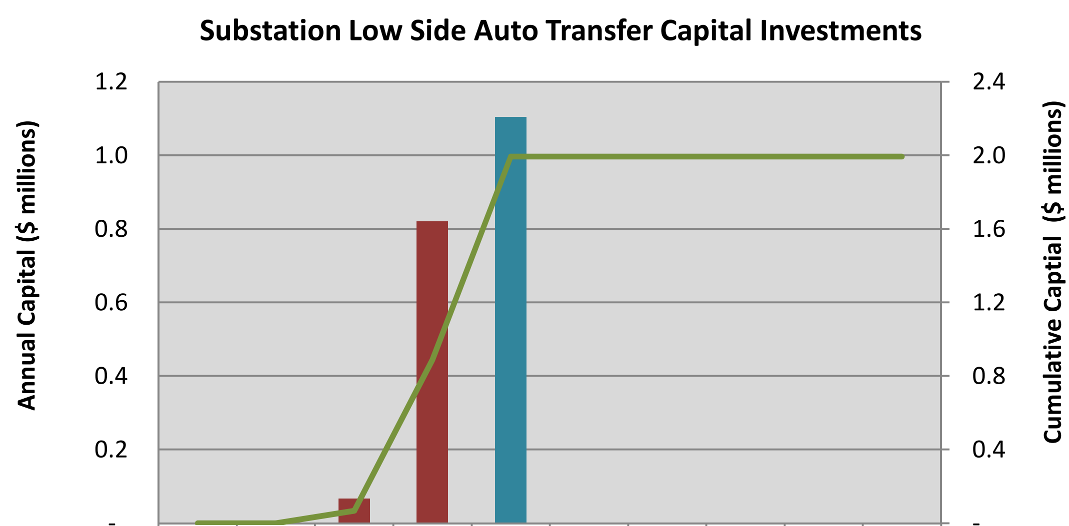
This program will evaluate the most heavily loaded stations by:

1. Customer count
2. Site feasibility

1.F.2: Program Capital Investments

Figure 1.F.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Substation Low Side Auto Transfer program. In 2012-15, AIC invested $0.9 million in the program. In total, AIC estimates the program investment to be $2.0 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.F.2: Substation Low Side Auto Transfer Capital Investments

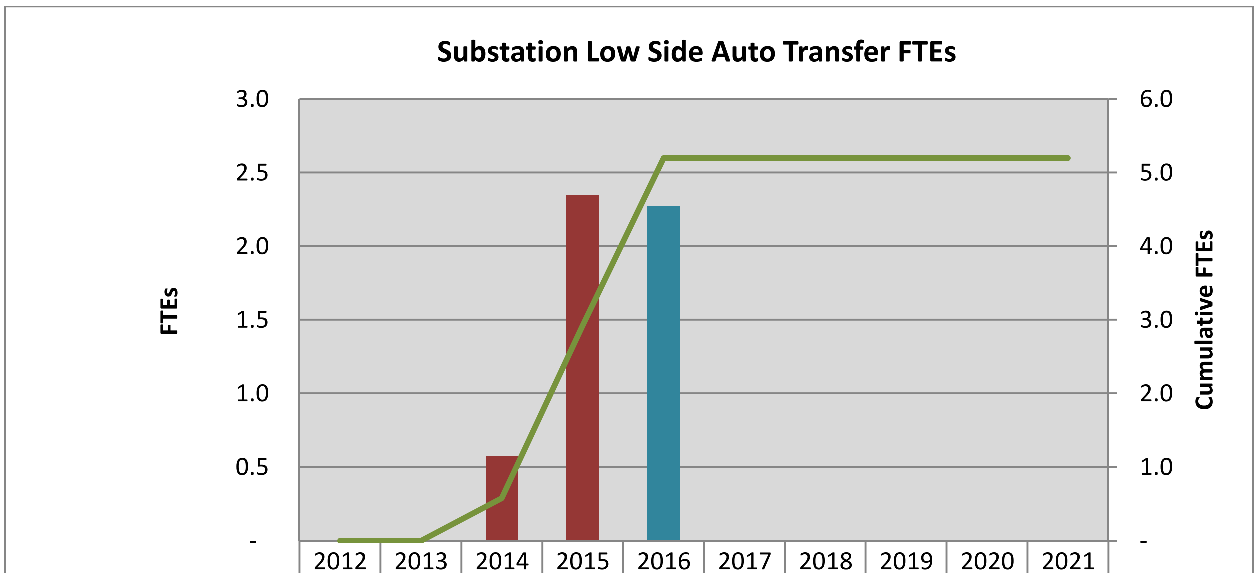


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	-	0.1	0.8	1.1	-	-	-	-	-
Cumulative Capital	-	-	0.1	0.9	2.0	2.0	2.0	2.0	2.0	2.0

1.F.3: Program FTEs

Figure 1.F.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 2.9 FTEs for this program in 2012-15, with 5.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.F.3: Substation Low Side Auto Transfer FTEs

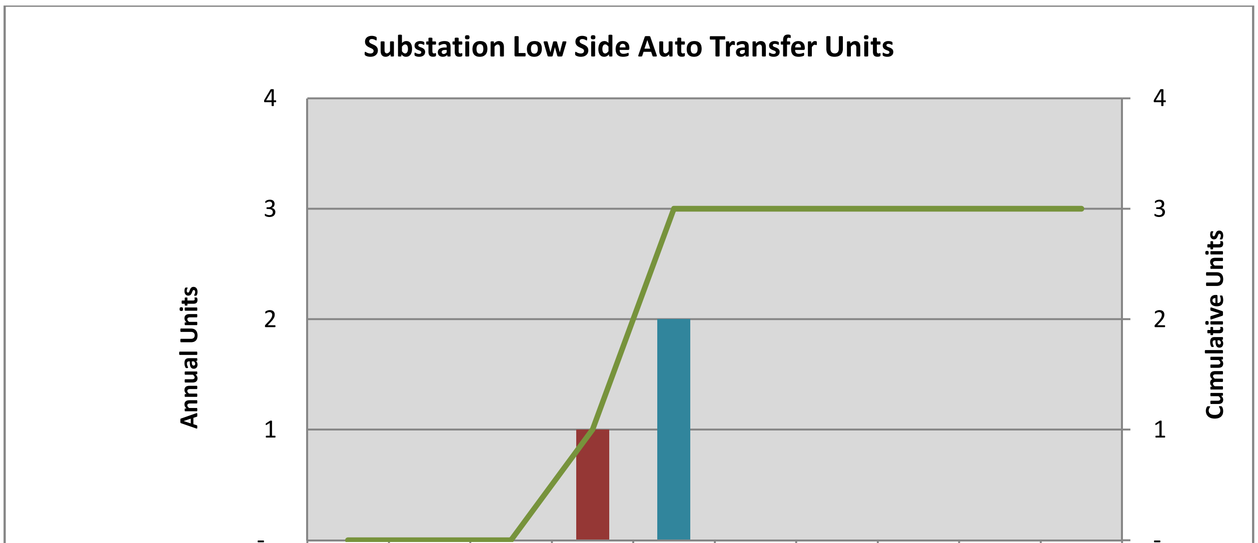


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	-	0.6	2.3	2.3	-	-	-	-	-
Cumulative FTEs	-	-	0.6	2.9	5.2	5.2	5.2	5.2	5.2	5.2

1.F.4: Program Schedule/Units

Figure 1.F.4 shows the projected number of distribution substations to have low side auto transfer installed. In 2012-15, there was 1 unit installed under this program. In total, 3 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units of work shown in the chart below are projects.

Figure 1.F.4: Substation Low Side Auto Transfer Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	-	-	1	2	-	-	-	-	-
Cumulative Units	-	-	-	1	3	3	3	3	3	3

SECTION 1.G: High Voltage Distribution Pole Reinforcement

1.G.1: Program Scope

The intent of this program is to provide reinforcement on high voltage distribution lines that may experience structural failure due to their age. Many 34kV and 69kV poles installed in the 1960's through 1970's and are or will experience reduced butt strength due to the onset of decay. Reinforcement of existing select poles, or addition of composite or high strength wood poles at susceptible locations, will reduce the likelihood of structural failure during significant transverse loading conditions.

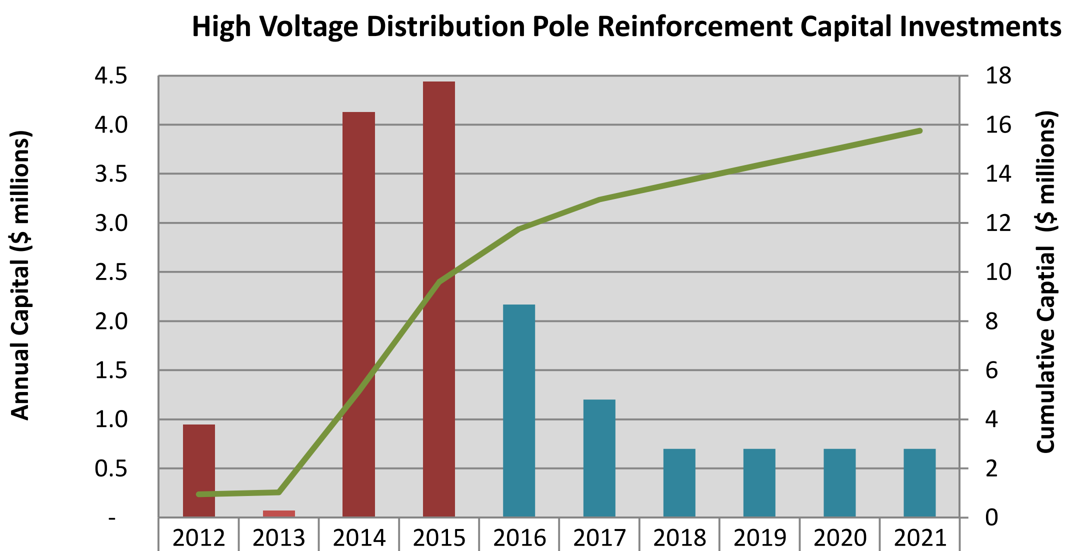
The lines will be generally selected based on:

1. Historical outage information
2. Greatest number of customers
3. Age and ground line condition of the pole
4. Proximity to guyed or protected structures
5. Workload management

1.G.2: Program Capital Investments

Figure 1.G.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21 for the Reinforce High Voltage Distribution Poles program. In 2012-15, AIC invested $9.6 million in the program. In total, AIC estimates the program investment to be $15.8 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.G.2: Pole Reinforcement Capital Investments

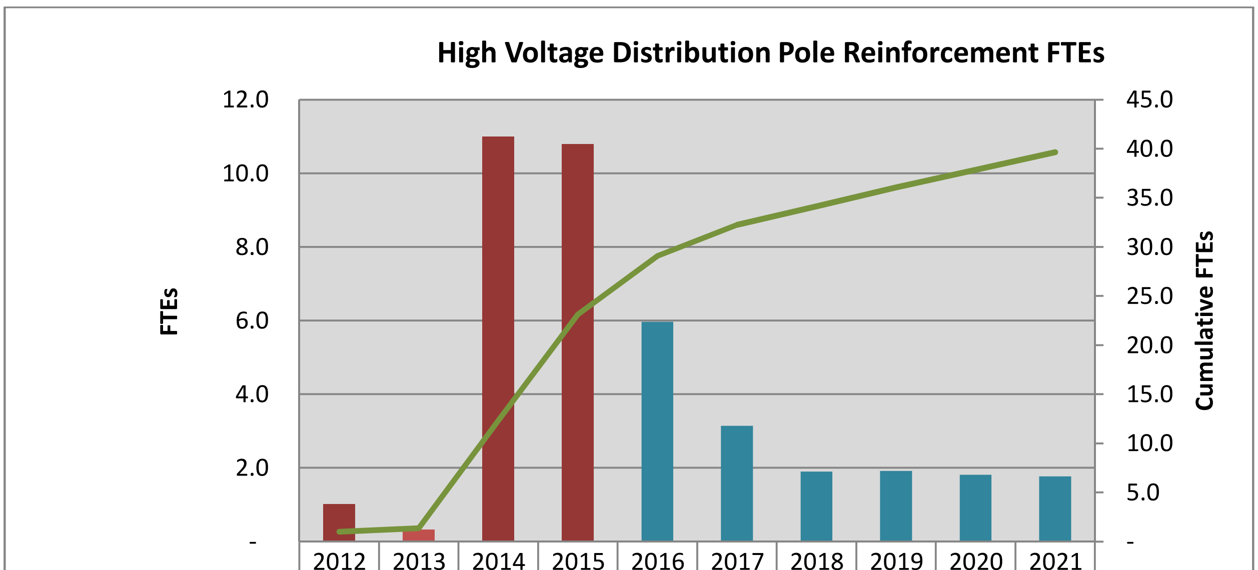


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.9	0.1	4.1	4.4	2.2	1.2	0.7	0.7	0.7	0.7
Cumulative Capital	0.9	1.0	5.1	9.6	11.8	13.0	13.7	14.4	15.1	15.8

1.G.3: Program FTEs

Figure 1.G.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 23.1 FTEs for this program in 2012-15 with 39.6 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.G.3: Pole Reinforcement FTEs

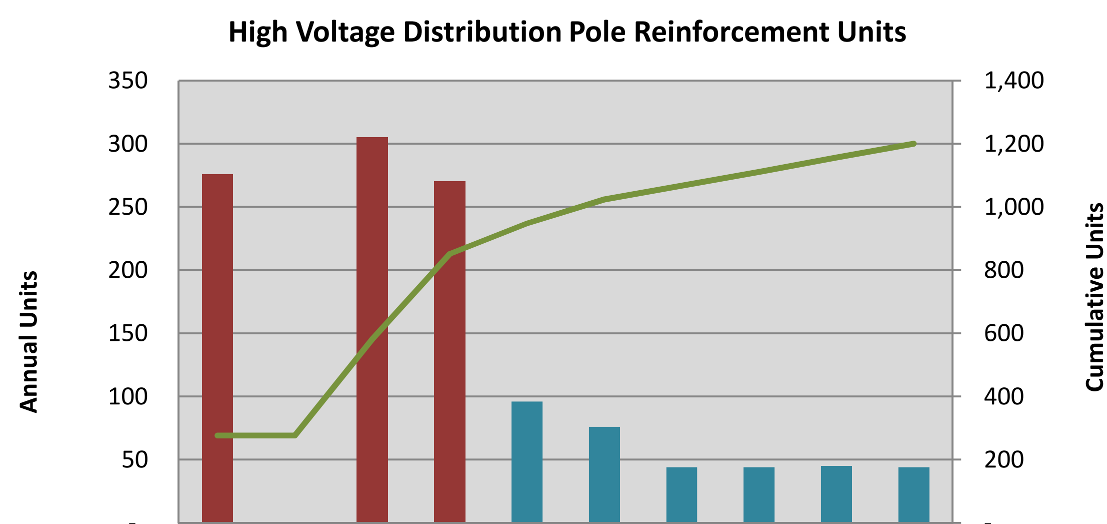


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	1.0	0.3	11.0	10.8	6.0	3.1	1.9	1.9	1.8	1.8
Cumulative FTEs	1.0	1.3	12.3	23.1	29.1	32.2	34.1	36.0	37.9	39.6

1.G.4: Program Schedule/Units Installed

Figure 1.G.4 shows the actual number of poles reinforced in 2012-15 and the projected reinforcement of existing select poles, or addition or of composite or high strength wood poles to be installed from 2016-21. In 2012-15, there were 851 units installed under this program. In total, 1,200 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are poles.

Figure 1.G.4: Pole Reinforcement Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	276	-	305	270	96	76	44	44	45	44
Cumulative Units	276	276	581	851	947	1,023	1,067	1,111	1,156	1,200

SECTION 1.H: Replace High Voltage Distribution Breakers

1.H.1: Program Scope

This program provides for the replacement of aging 34kV or 69kV breakers. AIC has over 1000 34kV and 69kV breakers, and as of 2011, over 400 were greater than 40 years old. Many of them have problematic mechanisms that are beyond a reasonable maintenance strategy.

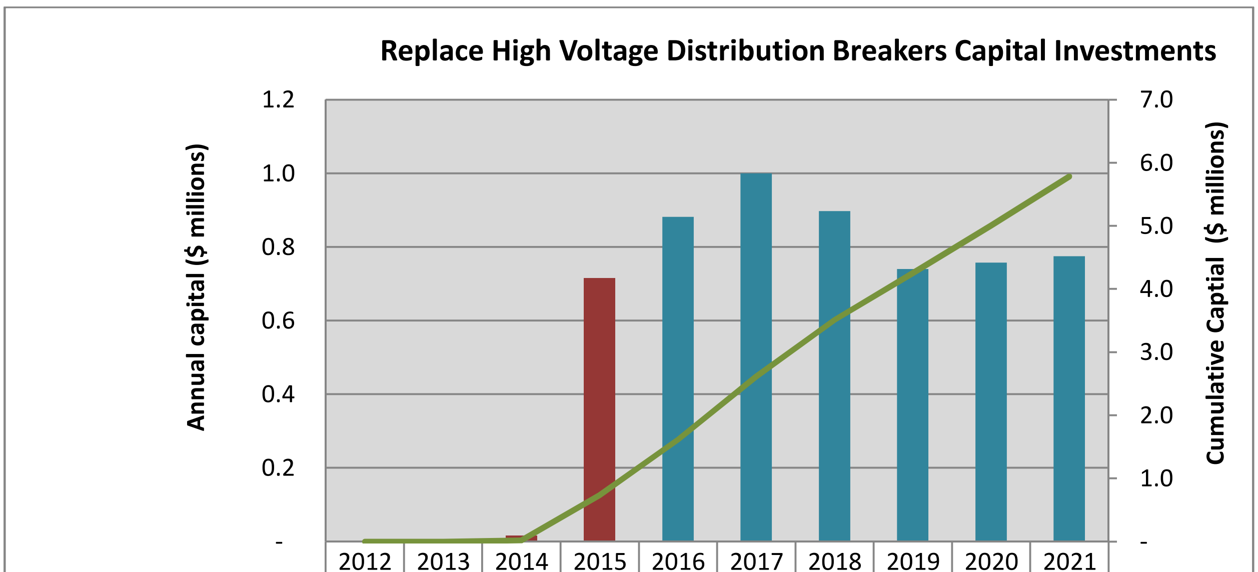
The breakers will be generally selected on the basis of:

1. Customer counts
2. Maintenance history
3. Criticality of load
4. Workload management

1.H.2: Program Capital Investments

Figure 1.H. represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Replace High Voltage Distribution Breakers program. In 2012-15, AIC invested $0.7 million in the program. In total, AIC estimates the program investment to be $5.8 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.H.2: Replace High Voltage Distribution Breakers Capital Investments

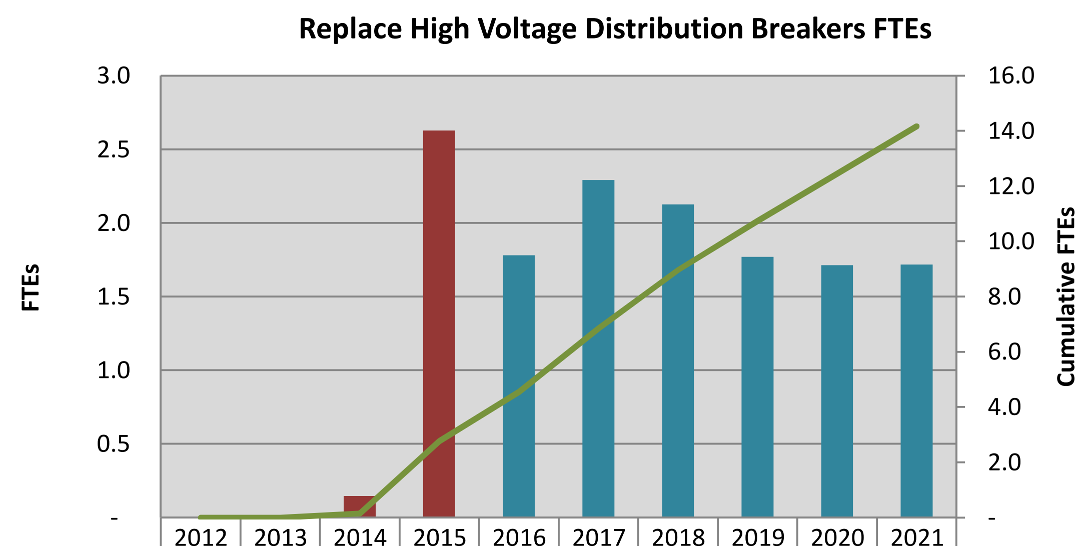


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	-	0.02	0.7	0.9	1.0	0.9	0.7	0.8	0.8
Cumulative Capital	-	-	0.02	0.7	1.6	2.6	3.5	4.2	5.0	5.8

1.H.3: Program FTEs

Figure 1.H.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 2.8 FTEs for this program in 2012-15, with 14.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.H.3: Replace High Voltage Distribution Breakers FTEs

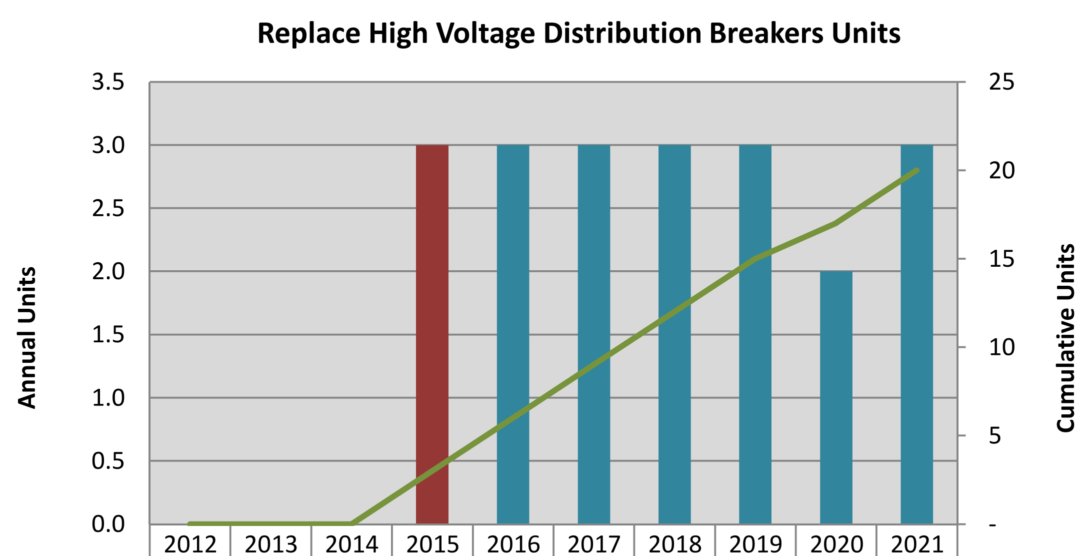


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	-	0.1	2.6	1.8	2.3	2.1	1.8	1.7	1.7
Cumulative FTEs	-	-	0.1	2.8	4.5	6.8	9.0	10.7	12.4	14.2

1.H.4: Program Schedule/Units

Figure 1.H.4 shows the projected number of high voltage primary distribution breakers to be replaced. In 2012-15 there were 3 units installed under this program. In total, 20 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are breakers replaced.

Figure 1.H.4: Replace Distribution High Voltage Breakers Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	-	-	3	3	3	3	3	2	3
Cumulative Units	-	-	-	3	6	9	12	15	17	20

SECTION 1.I: Spacer Cable Program

1.I.1: Program Scope

This program is designed to improve the performance of selected spacer cable systems and their circuit reliability. In cases where the insulation has severely deteriorated, this involves replacing the existing spacer cable. Depending on the specific application, a new spacer cable system, new open wire conductors, or underground cable may be installed.

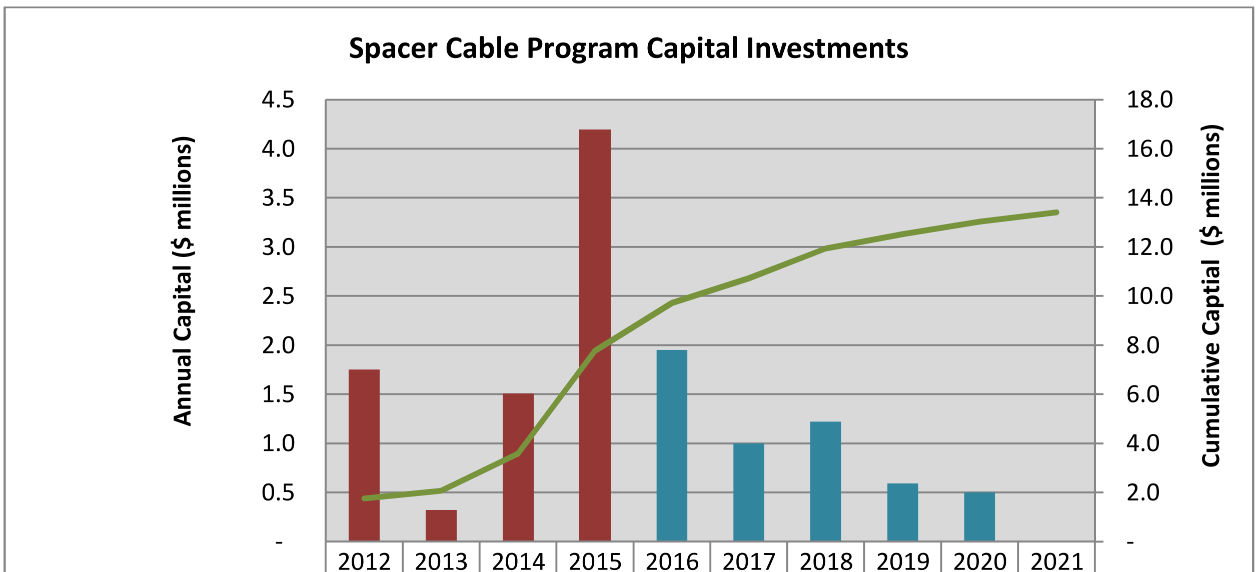
The spacer cable to be replaced will be generally based on:

1. Inspection results
2. Greatest number of customers
3. Engineering availability
4. Workload management

1.I.2: Program Capital Investments

Figure 1.I.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21 in the Spacer Cable Program. In 2012-15, AIC invested $7.8 million in the program. In total, AIC estimates the program investment to be $13.4 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.I.2: Spacer Cable Program Capital Investments

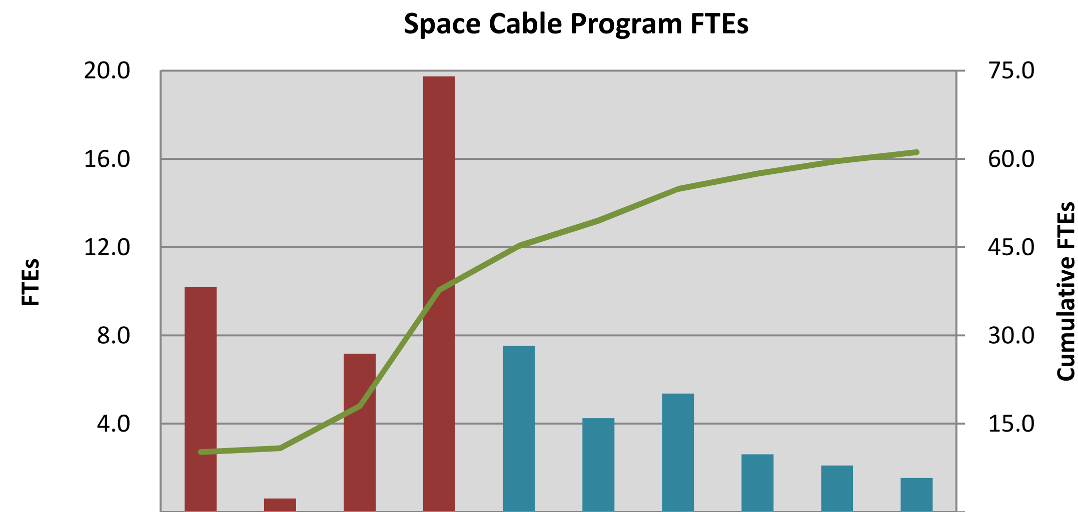


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	1.8	0.3	1.5	4.2	2.0	1.0	1.2	0.6	0.5	
Cumulative Capital	1.8	2.1	3.6	7.8	9.7	10.7	11.9	12.5	13.0	13.4

1.I.3: Program FTEs

Figure 1.I.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 37.7 FTEs for this program in 2012-15, with 61.1 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.I.3: Spacer Cable Program FTEs

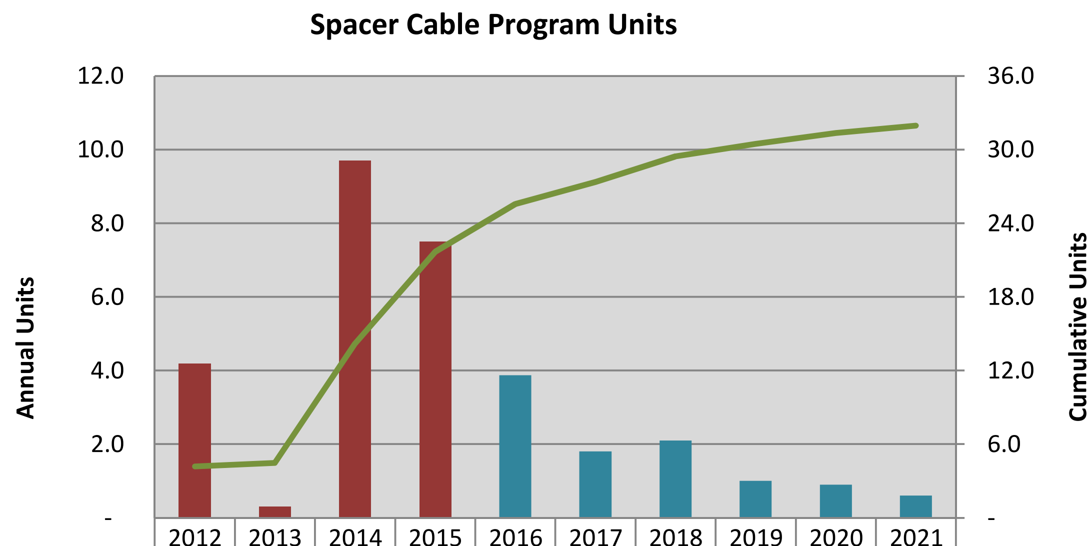


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	10.2	0.6	7.2	19.7	7.5	4.3	5.4	2.6	2.1	1.5
Cumulative FTEs	10.2	10.8	18.0	37.7	45.2	49.5	54.9	57.5	59.6	61.1

1.I.4: Program Schedule/Units

Figure1.I.4 shows the actual units of spacer cable replaced in 2012-15 and the projected units of spacer cable to be replaced in 2012-2021. In 2012-15 there were 21.7 units installed under this program. In total, 32 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are miles.

Figure 1.I.4: Spacer Cable Program Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	4.2	0.3	9.7	7.5	3.9	1.8	2.1	1.0	0.9	0.6
Cumlative Units	4.2	4.5	14.2	21.7	25.6	27.4	29.5	30.5	31.4	32.0

SECTION 1.J: Rebuild Primary Distribution Lines

1.J.1: Program Scope

This program is designed to rebuild select distribution circuits. These projects could include reconductoring, replacing poles, increasing the operating voltage, or total rebuilds.

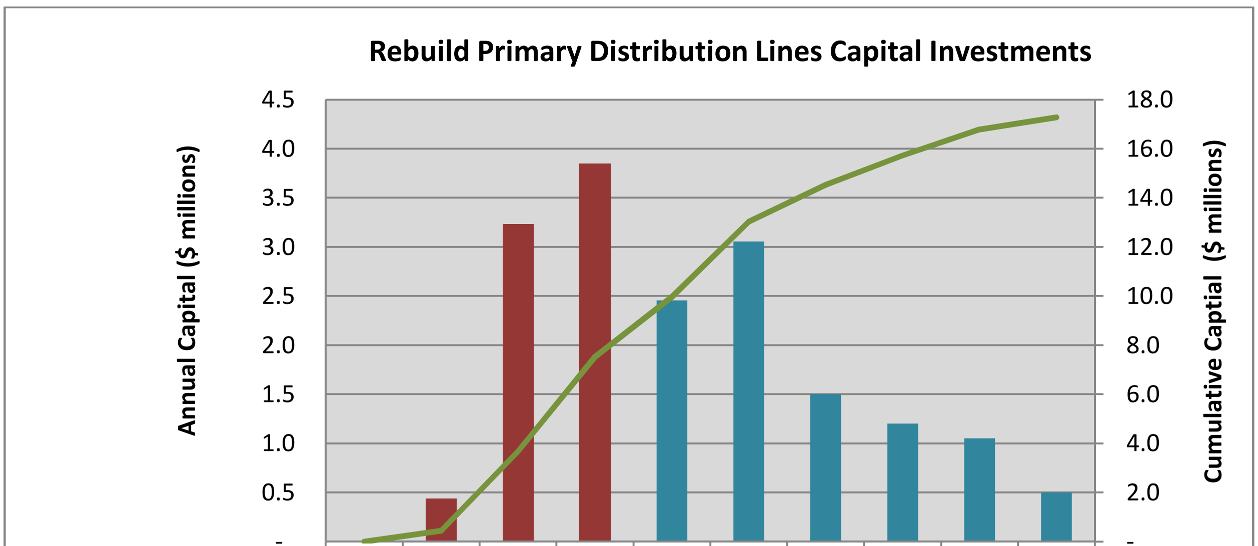
These projects will be generally selected based on:

1. Line Condition
2. Greatest number of customers
3. Outage history
4. Workload management
5. System improvement possibilities

1.J.2: Program Capital Investments

Figure 1.J.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Rebuild Distribution Lines program. In 2012-15, AIC invested $7.5 million in this program. In total, AIC estimates the program investment to be $17.3 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.J.2: Rebuild Primary Distribution Lines Capital Investments

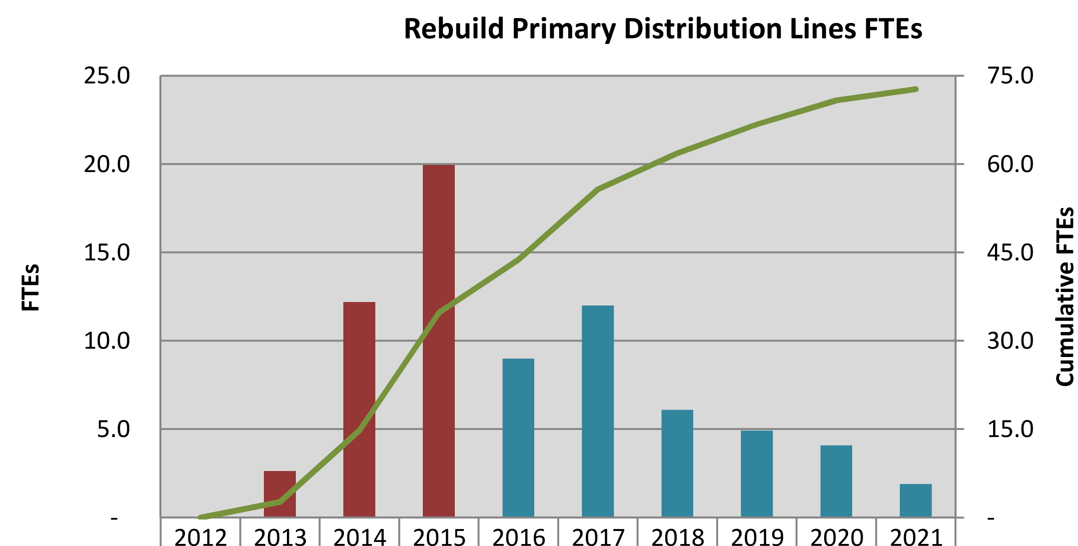


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	0.4	3.2	3.8	2.5	3.1	1.5	1.2	1.1	0.5
Cumulative Capital	-	0.4	3.7	7.5	10.0	13.0	14.5	15.7	16.8	17.3

1.J.3: Program FTEs

Figure 1.J.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 34.7 FTEs for this program in 2012-15 with 72.7 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.J.3: Rebuild Primary Distribution Lines FTEs

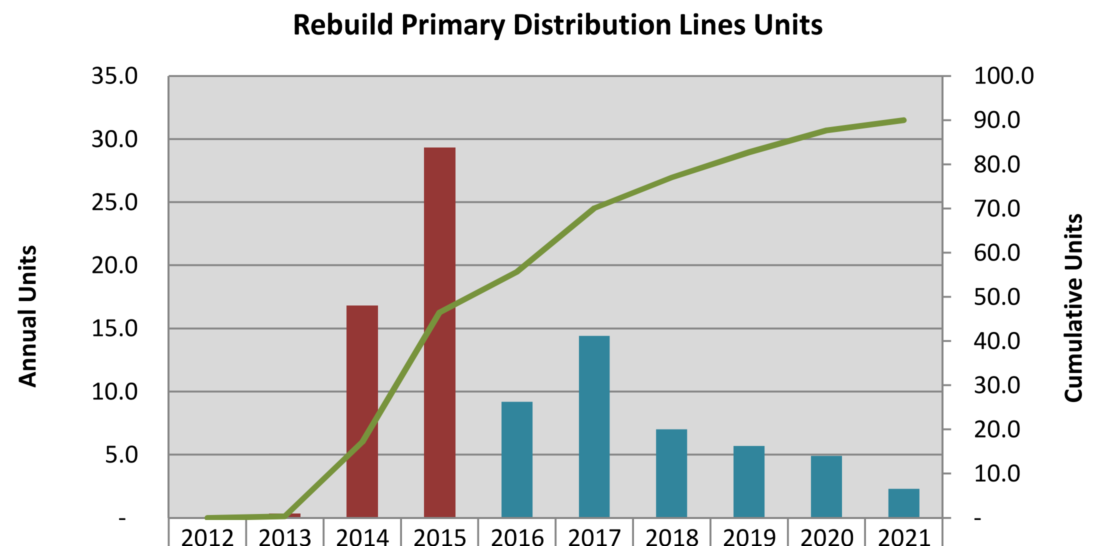


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	2.6	12.2	19.9	9.0	12.0	6.1	4.9	4.1	1.9
Cumulative FTEs	-	2.6	14.8	34.7	43.7	55.7	61.8	66.7	70.8	72.7

1.J.4: Program Schedule/Units

Figure 1.J.4 shows the projected miles of primary distribution to be rebuilt. In 2012-15, there were 46.5 units installed under this program. In total, 90 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are the estimated miles of line to be rebuilt or upgraded.

Figure 1.J.4: Rebuild Primary Distribution Lines Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	0.4	16.8	29.3	9.2	14.4	7.0	5.7	4.9	2.3
Cumulative Units	-	0.4	17.2	46.5	55.7	70.1	77.1	82.8	87.7	90.0

SECTION 1.K: Primary Distribution Line Capacity Additions

1.K.1: Program Scope

This program is designed to upgrade or modify existing distribution circuits to provide additional capacity. The additional capacity may be required due to such items as existing or anticipated load, load transfer capability, or voltage conversions.

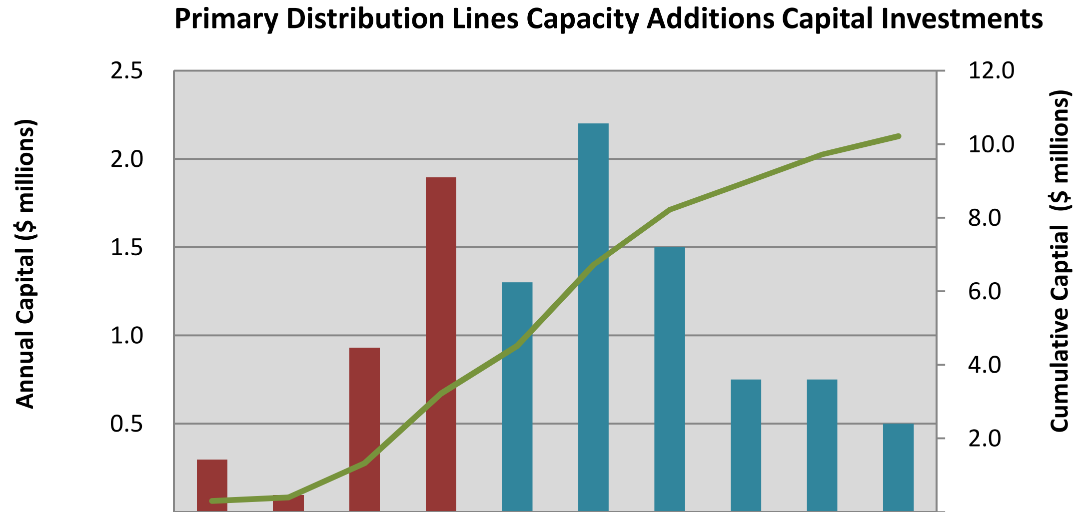
Lines or portions of lines will be generally selected on:

1. Thermal load considerations
2. Load transfer capabilities
3. Projected load growth
4. Reliability history
5. Workload management

1.K.2: Program Capital Investments

Figure 1.K.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Primary Distribution Lines Capacity Additions program. In 2012-15, AIC invested $3.2 million in the program. In total, AIC estimates the program investment to be $10.2 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.K.2: Primary Distribution Line Capacity Additions Capital Investments

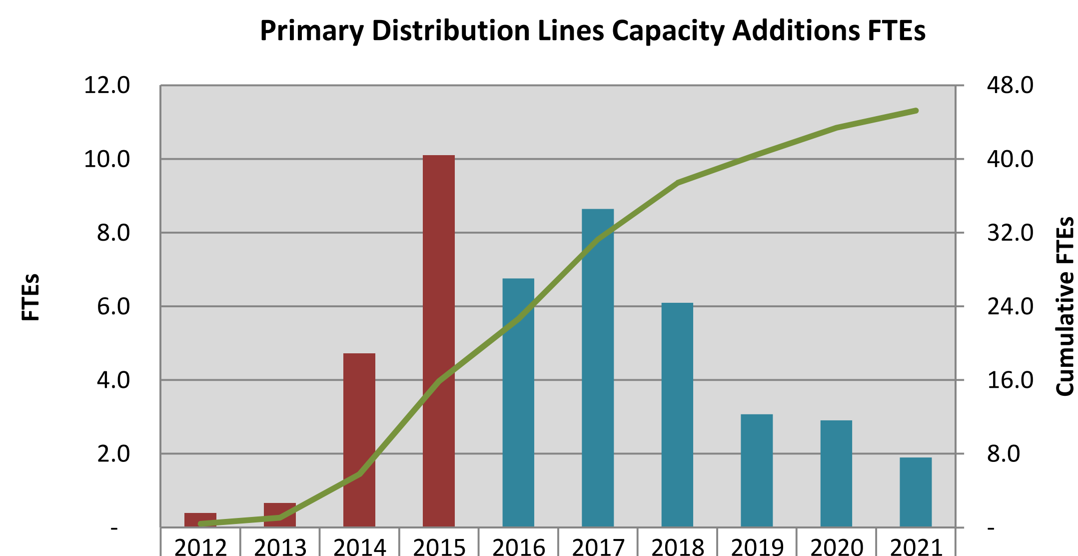


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.3	0.1	0.9	1.9	1.3	2.2	1.5	0.8	0.8	0.5
Cumulative Capital	0.3	0.4	1.3	3.2	4.5	6.7	8.2	9.0	9.7	10.2

1.K.3: Program FTEs

Figure 1.K.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 15.9 FTEs for this program in 2012-15, with 45.3 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.K.3: Primary Distribution Line Capacity Additions FTEs

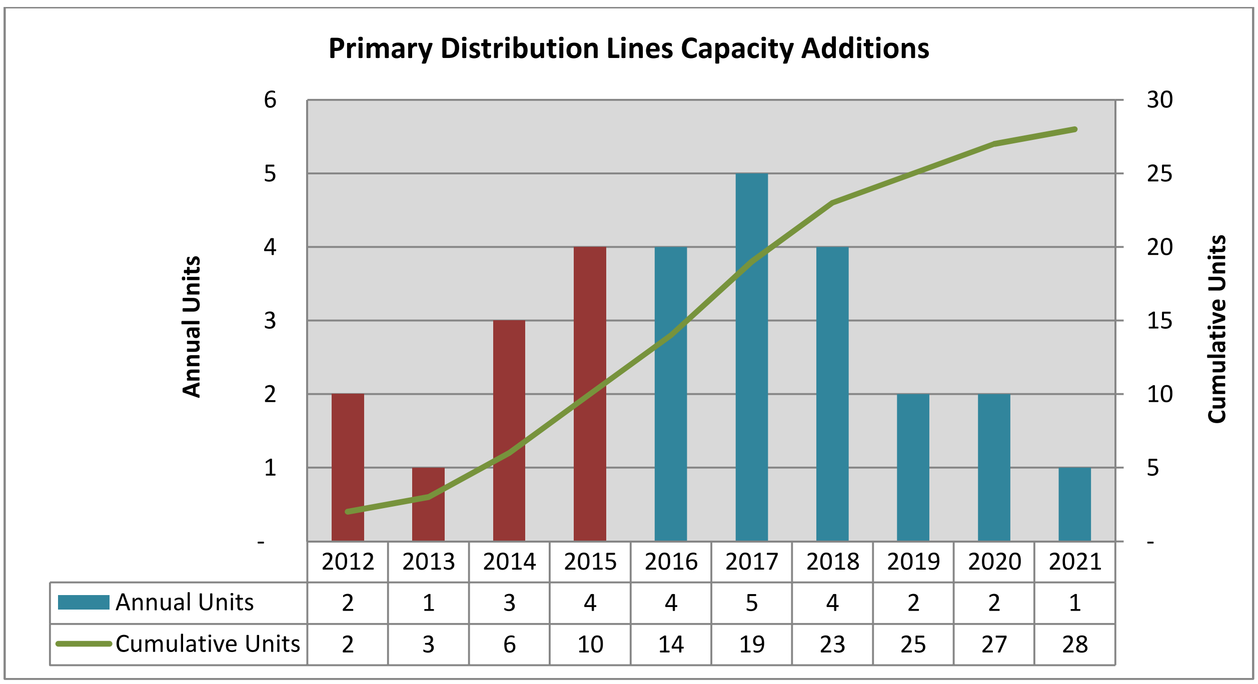


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	0.4	0.7	4.7	10.1	6.8	8.6	6.1	3.1	2.9	1.9
Cumulative FTEs	0.4	1.1	5.8	15.9	22.6	31.3	37.4	40.4	43.4	45.3

1.K.4: Program Schedule/Units

Figure 1.K.4 shows the actual lines that had capacity added in 2012-15 and the estimated number of primary distribution lines to have capacity added in 2016-21. In 2012-15, there were 10 units installed under this program. In total, 28 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are circuits for 2012-13, and projects for 2014-2021.

Figure 1.K.4: Primary Distribution Lines Capacity Additions Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	2	1	3	4	4	5	4	2	2	1
Cumulative Units	2	3	6	10	14	19	23	25	27	28

SECTION 1.L: Bulk Transformer Outage Mitigation

1.L.1: Program Scope

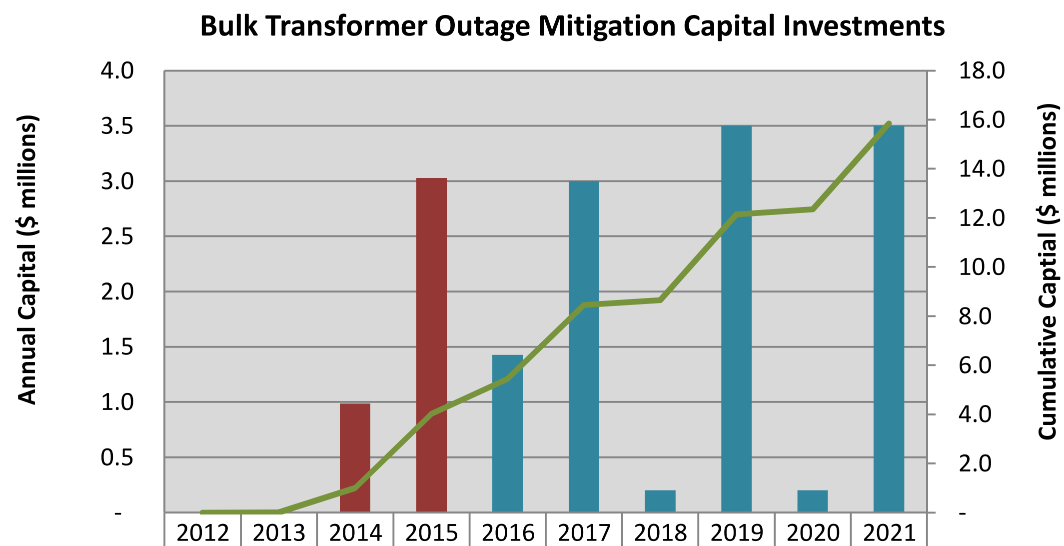
This program is to provide system reinforcements by installing a second bulk supply transformer, building a new bulk supply substation, or reconductoring high voltage distribution lines to provide the system redundancy required to facilitate system maintenance and avoid load curtailments during a bulk substation transformer outage.

Evaluation of potential projects includes the analyses of the robustness of the system during off peak season when a planned outage of a bulk supply transformer might occur for maintenance purposes. The criteria specifies that for the planned outage of a bulk supply transformer and the loss of a single high voltage distribution line, transmission line or generating unit while supplying 65% of projected peak system load, the system shall operate with all equipment at or below emergency thermal limits and within voltage limits.

1.L.2: Program Capital Investments

Figure 1.L.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Bulk Transformer Outage Mitigation program. In 2012-15, AIC invested $4.0 million in the program. In total, AIC estimates the program investment to be $15.8 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.L.2: Bulk Transformer Outage Mitigation Capital Investments

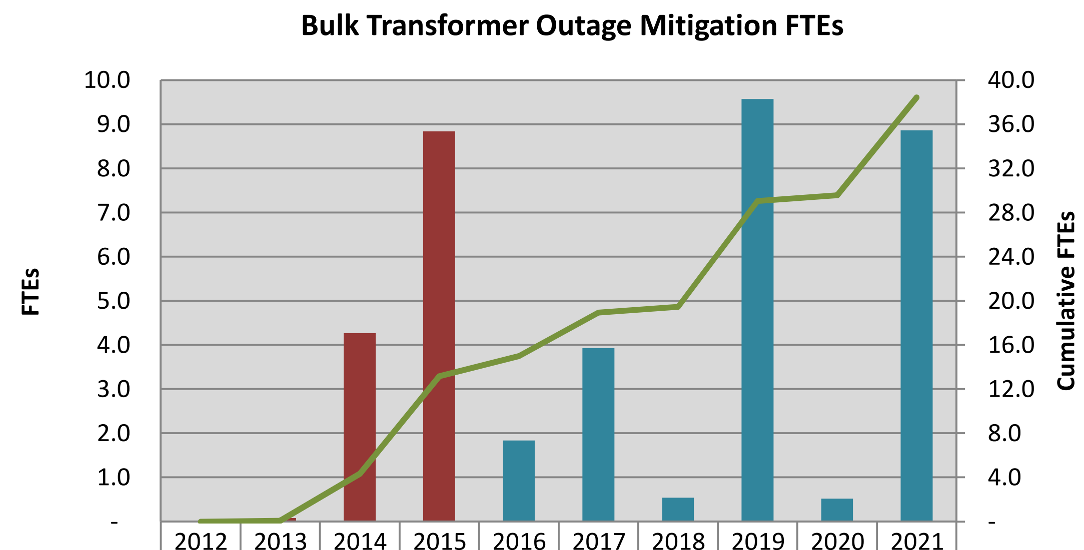


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	0.01	1.0	3.0	1.4	3.0	0.2	3.5	0.2	3.5
Cumulative Capital	-	0.01	1.0	4.0	5.4	8.4	8.6	12.1	12.3	15.8

1.L.3: Program FTEs

Figure 1.L.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 13.2 FTEs for this program in 2012-15, with 38.4 annual FTEs projected in total for 2012-21. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision, and craft.

Figure 1.L.3: Bulk Transformer Outage Mitigation FTEs

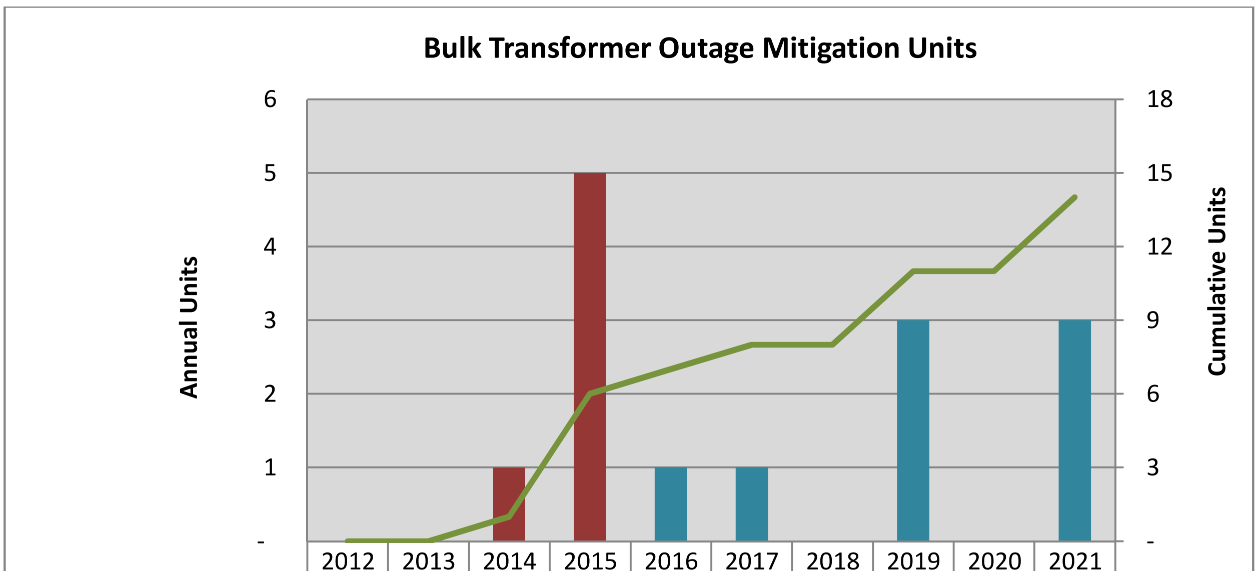


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	0.1	4.3	8.8	1.8	3.9	0.5	9.6	0.5	8.9
Cumulative FTEs	-	0.1	4.3	13.2	15.0	18.9	19.5	29.0	29.6	38.4

1.L.4: Program Schedule/Units

Figure 1.L.4 shows the projected number of bulk transformers outage situations to be mitigated. In 2012-15 there were 6 units installed under this program. In total, 14 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are the projects.

Figure 1.L.4: Bulk Transformer Mitigation Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	-	1	5	1	1	-	3	-	3
Cumulative Units	-	-	1	6	7	8	8	11	11	14

SECTION 1.M: Rebuild High Voltage Distribution Lines

1.M.1: Program Scope

The objective of this program is to rebuild and/or reconductor select high voltage distribution lines. In many cases, the scope of work may be limited to a portion of a line or targeted to address a specific reliability concern such as pole failures or lightning related outages.

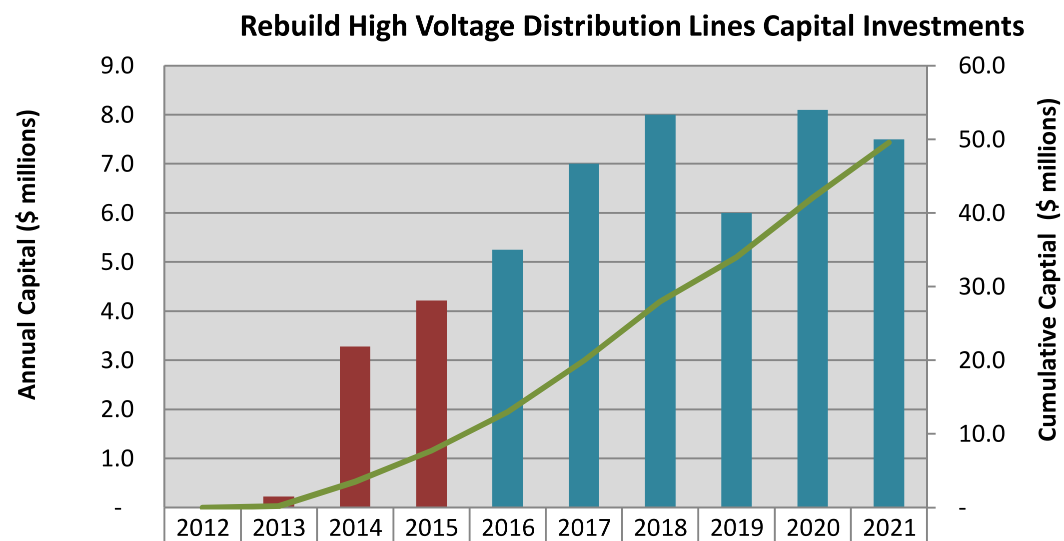
The following factors will generally be used in prioritizing and determining which high voltage distribution lines will be rebuilt.

1. Greatest number of customers
2. Outage history
3. Condition of the facilities
4. System operating parameters
5. Workload management

1.M.2: Program Capital Investments

Figure 1.M.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Rebuild High Voltage Distribution Lines program. In 2012-15, AIC invested $7.7 million in the program. In total, AIC estimates the program investment to be $49.6 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.M.2: Rebuild High Voltage Distribution Lines Capital Investments

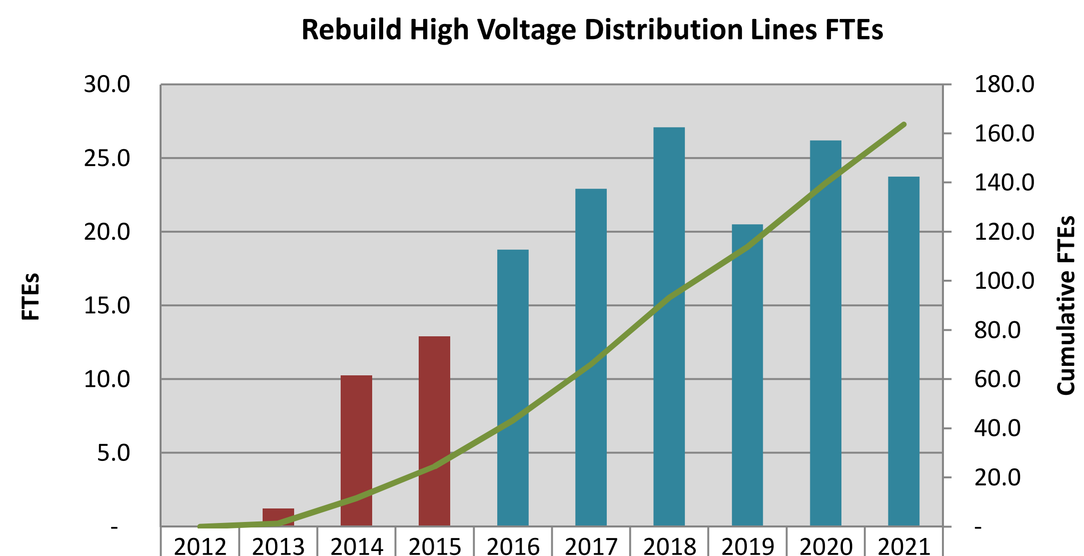


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	0.2	3.3	4.2	5.2	7.0	8.0	6.0	8.1	7.5
Cumulative Capital	-	0.2	3.5	7.7	13.0	20.0	28.0	34.0	42.1	49.6

1.M.3: Program Schedule FTEs

Figure 1.M.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 24.4 FTEs for this program in 2012-15, with 163.6 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.M.3: Rebuild High Voltage Distribution Lines FTEs

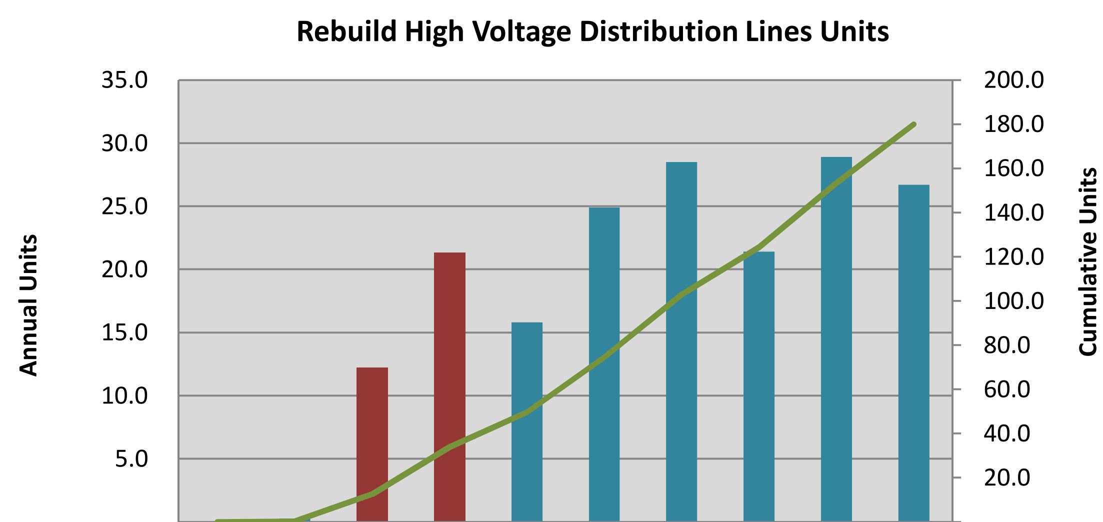


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	1.2	10.3	12.9	18.8	22.9	27.1	20.5	26.2	23.7
Cumulative FTEs	-	1.2	11.5	24.4	43.2	66.1	93.2	113.7	139.9	163.6

1.M.4: Program Schedule/Units

Figure 1.M.4 shows the projected number of Rebuild High Voltage Distribution Units. In 2012-15, there were 33.8 units installed under this program. In total, 180 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are miles of high voltage distribution line.

Figure 1.M.4: Rebuild High Voltage Distribution Lines Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	0.3	12.2	21.3	15.8	24.9	28.5	21.4	28.9	26.7
Cumulative Units	-	0.3	12.5	33.8	49.6	74.5	103.0	124.4	153.3	180.0

SECTION 1.N: Expand Bulk Supply Substations

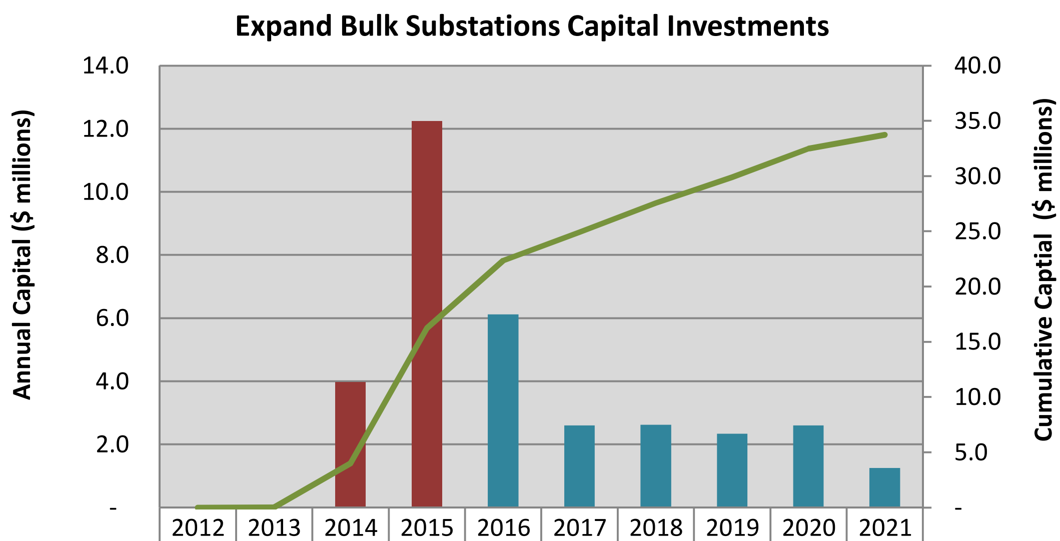
1.N.1: Program Scope

This program will construct new bulk supply substations (e.g., 161/69 kV, 138/69 kV, and 138/34.5 kV), or install new bulk supply transformers at existing substation locations, and implement associated line and equipment reinforcements. These are major system upgrades required to meet planning criteria (when small incremental improvements are no longer sufficient) and for which significant increases above present capital spending levels are required.

1.N.2: Program Capital Investments

Figure 1.N.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Expand Bulk Supply Substations program. In 2012-15, AIC invested $16.2 million in the program. In total, AIC estimates the program investment to be $33.7 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.N.2: Expand Bulk Supply Substations Capital Investments

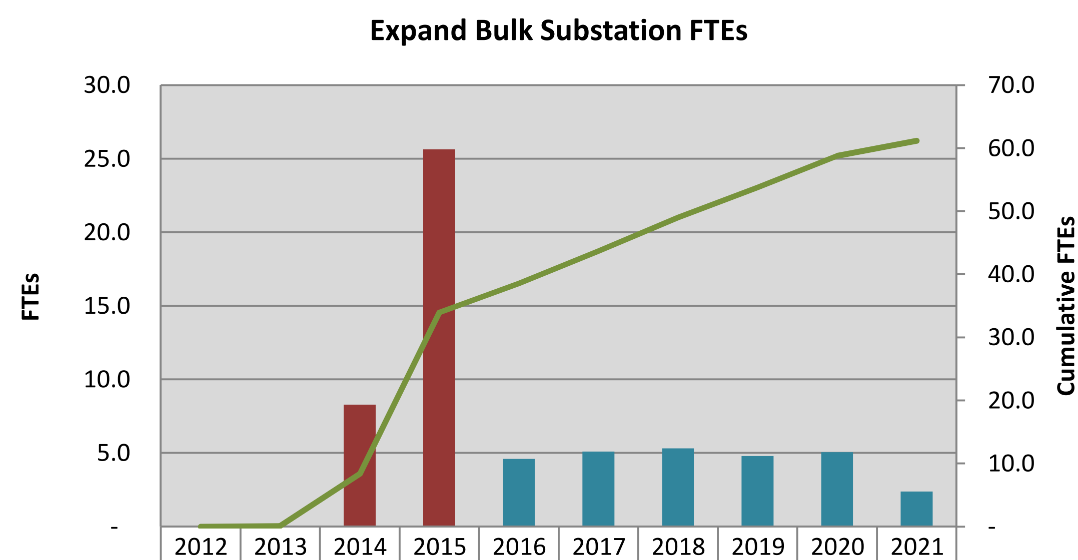


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	0.01	4.0	12.2	6.1	2.6	2.6	2.3	2.6	1.3
Cumulative Capital	-	0.01	4.0	16.2	22.3	24.9	27.6	29.9	32.5	33.7

1.N.3: Program FTEs

Figure 1.N.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 34.0 FTEs for this program in 2012-15 with 61.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.N.3: Expand Bulk Supply Substations FTEs

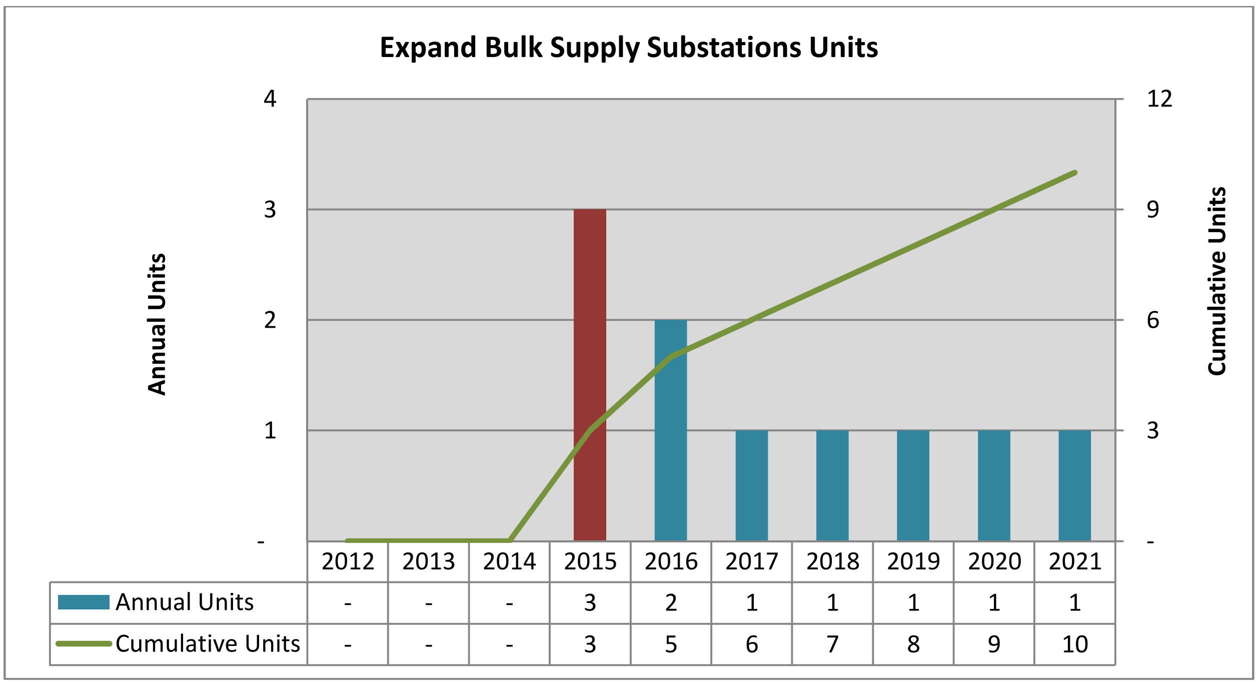


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	0.1	8.3	25.6	4.6	5.1	5.3	4.8	5.0	2.4
Cumulative FTEs	-	0.1	8.3	34.0	38.5	43.7	49.0	53.8	58.8	61.2

1.N.4: Program Schedule/Units

Figure 1.N.4 shows the projected number of bulk supply expansion projects. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. In 2012-15, there were 3 units installed under this program. In total, 10 projects are projected to occur over the life of the Plan. Estimates of cost, units of work, and schedules for that work may evolve over time.

Figure 1.N.4: Expanded Bulk Substations Units



SECTION 1.O: Underground Primary Distribution Cable

1.O.1: Program Scope

AIC has over 5,000 miles of 1Ø underground primary conductor and over 1,600 miles of 2Ø and 3Ø underground primary conductors in service. Engineering analysis has identified many direct buried underground primary distribution cable sections that have reached the end of their useful operating life. These sections will be evaluated for either rejuvenation or replacement.

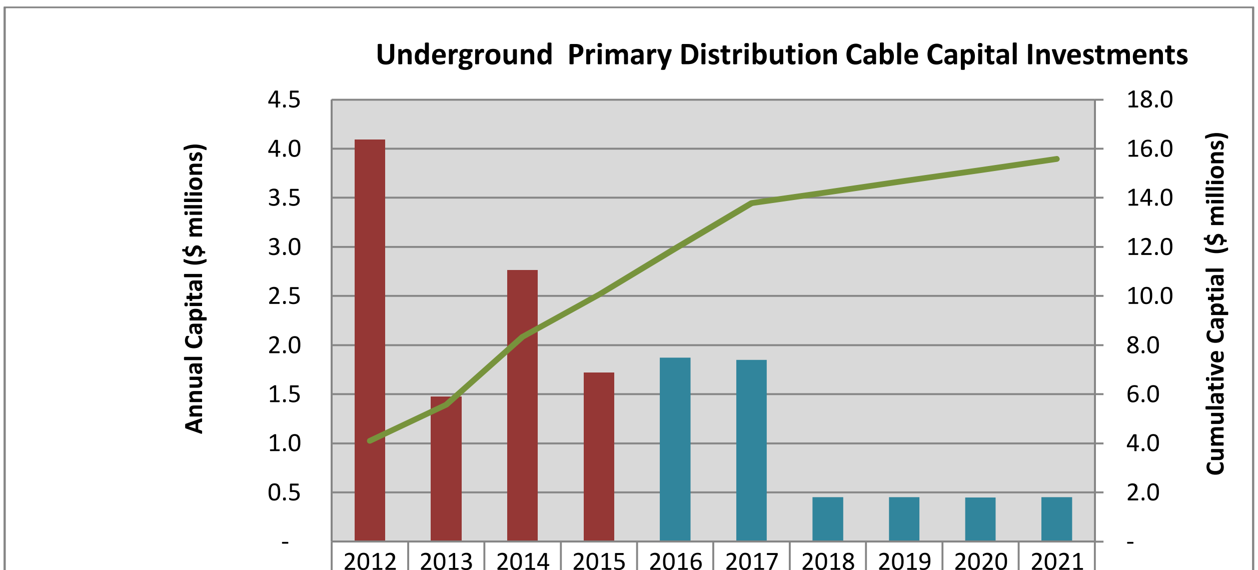
These projects will be generally selected on the basis of:

1. Historical outage information
2. Age of the cable
3. Greatest number of customers
4. Workload management

1.O.2: Program Capital Investments

Figure 1.O.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Underground Primary Cable program. In 2012-15, AIC invested $10.1 in the program. In total, AIC estimates the program investment to be $15.6 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.O.2: Underground Primary Distribution Cable Capital Investments

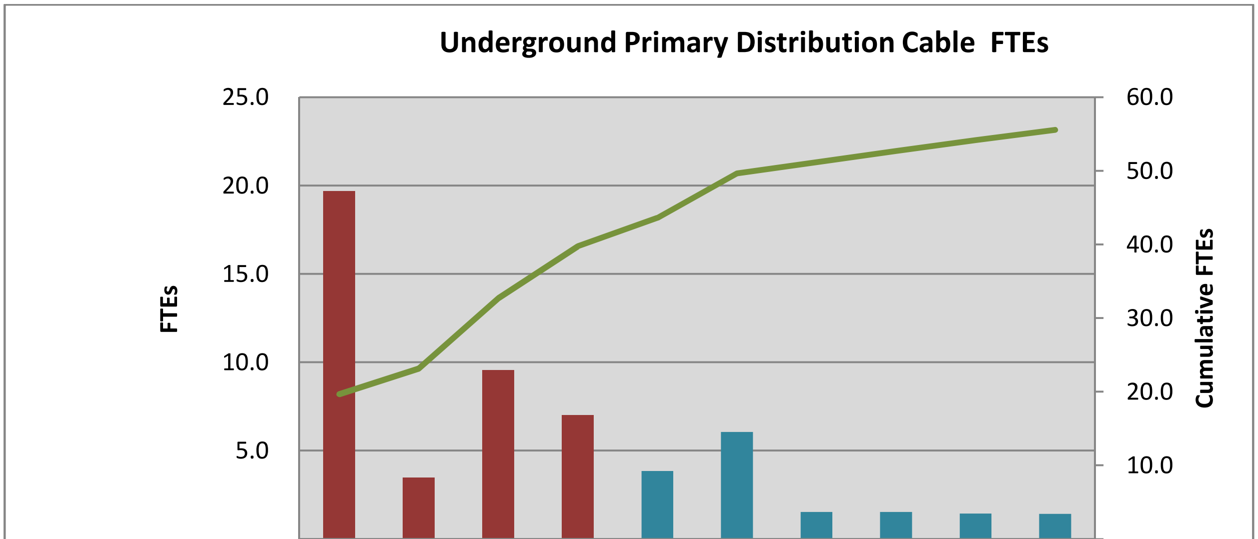


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	4.1	1.5	2.8	1.7	1.9	1.8	0.5	0.5	0.4	0.5
Cumulative Capital	4.1	5.6	8.3	10.1	11.9	13.8	14.2	14.7	15.1	15.6

1.O.3: Program FTEs

Figure 1.O.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 39.7 FTEs for this program in 2012-15, with 55.6 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.O.3: Underground Primary Distribution Cable FTEs

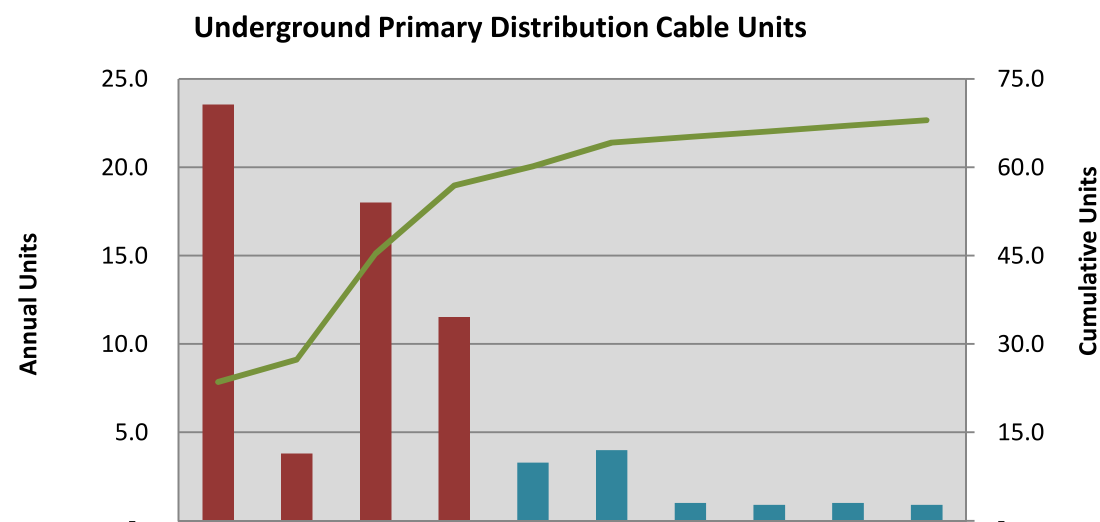


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	19.7	3.5	9.6	7.0	3.8	6.1	1.5	1.5	1.4	1.4
Cumulative FTEs	19.7	23.2	32.7	39.7	43.6	49.6	51.2	52.7	54.1	55.6

1.O.4: Program Schedule/Units

Figure 1.O.4 shows the actual miles of underground cable replaced or rejuvenated in 2012-15 and the projected miles of primary underground cable to be replaced or rejuvenated in 2016-21. In 2012-15 there were 56.9 units installed under this program. In total, 68.0 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are miles of cable.

Figure 1.O.4: Underground Primary Distribution Cable Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	23.6	3.8	18.0	11.5	3.3	4.0	1.0	0.9	1.0	0.9
Cumulative Units	23.6	27.4	45.4	56.9	60.2	64.2	65.2	66.1	67.1	68.0

SECTION 1.P: Primary Distribution System Ties

1.P.1: Program Scope

This program plans to build primary distribution circuits to tie primary distribution circuit ties for better operating efficiency and reliability. This could include making distribution ties between adjacent substations, tying legacy company circuits together that are in close proximity, or tying to other utility sources such as CO-OPs and municipalities.

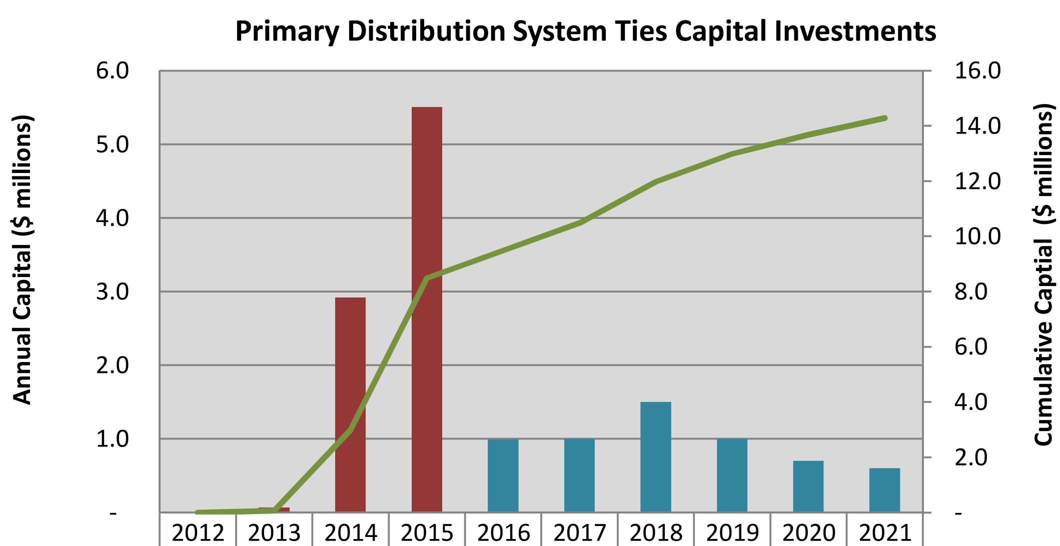
New system ties will be generally selected based on:

1. System benefit
2. Greatest number of customers
3. Outage history
4. Workload management.

1.P.2: Program Capital Investments

Figure 1.P.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Primary Distribution System Ties. In 2012-15, AIC invested $8.5 million in the program. In total, AIC estimates the program investment to be $14.3 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.P.2: Primary Distribution System Ties Capital Investments

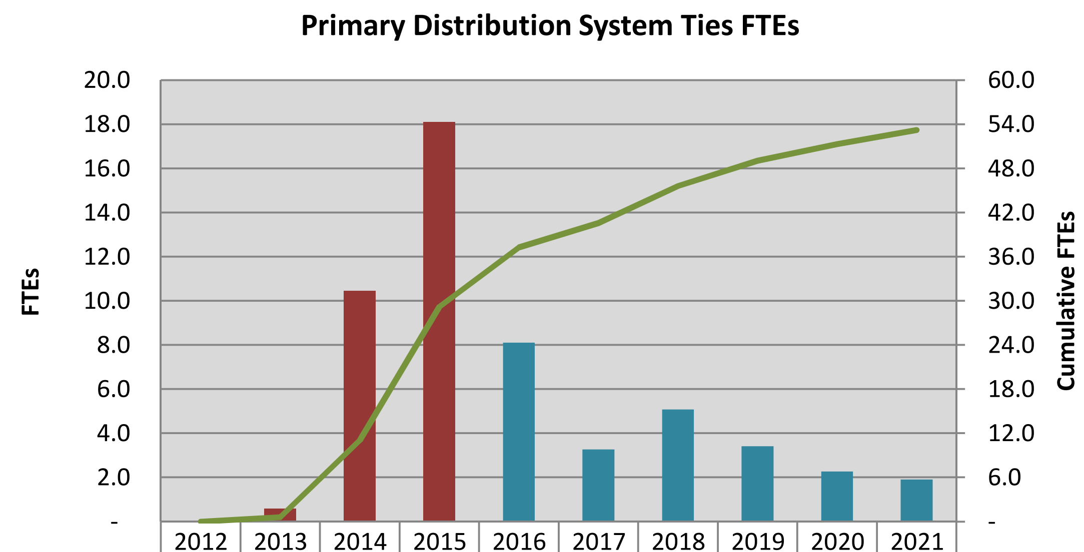


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	0.1	2.9	5.5	1.0	1.0	1.5	1.0	0.7	0.6
Cumulative Capital	-	0.1	3.0	8.5	9.5	10.5	12.0	13.0	13.7	14.3

1.P.3: Program FTEs

Figure1.P.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 29.2 FTEs for this program in 2012-15 with 53.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.P.3: Primary Distribution System Ties FTEs

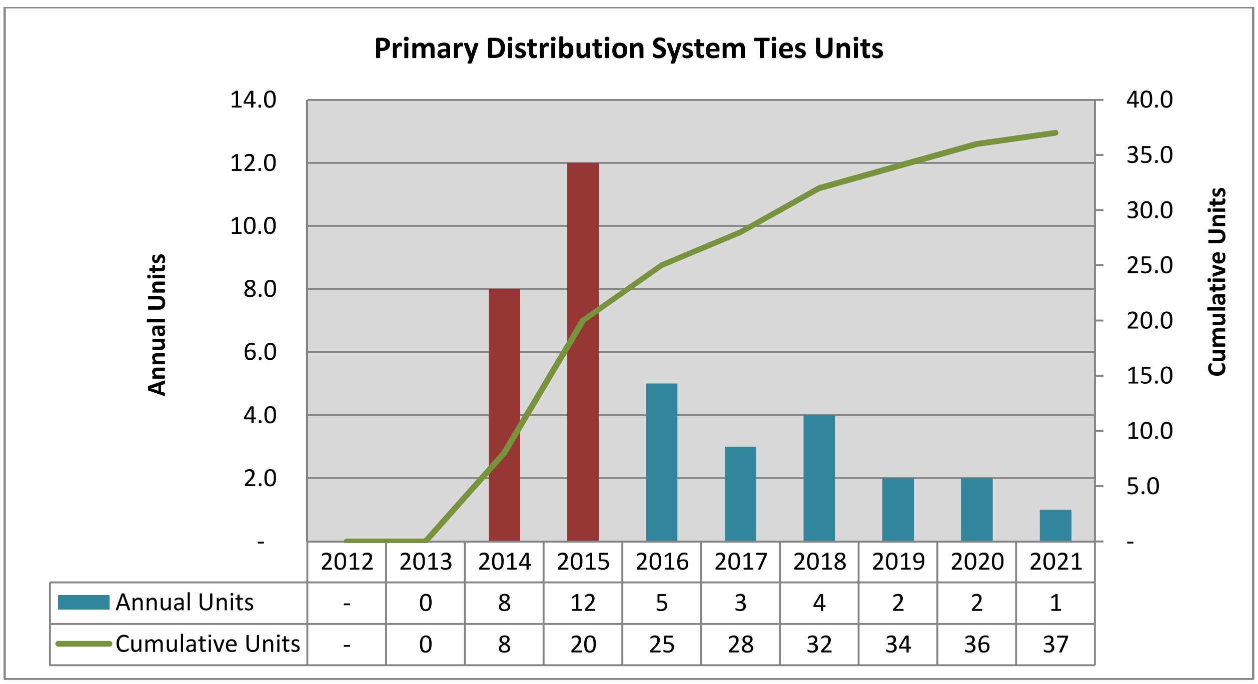


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	0.6	10.4	18.1	8.1	3.3	5.1	3.4	2.3	1.9
Cumulative FTEs	-	0.6	11.0	29.2	37.3	40.5	45.6	49.0	51.3	53.2

1.P.4: Program Schedule/Units

Figure 1.P.4 shows the projected number of primary distribution projects to occur under this program. In 2012-15 there were 20 units installed under this program. In total, 37 units are expected under this program over the life of the Plan. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are projects.

Figure 1.P.4: Primary Distribution System Ties Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	0	8	12	5	3	4	2	2	1
Cumulative Units	-	0	8	20	25	28	32	34	36	37

SECTION 1.Q: CERT Remediation

1.Q.1: Program Scope

This program will specifically target existing and potential Customers Exceeding Reliability Targets (CERT) for remediation each year. This could include reconductoring and/or rebuilding portions of distribution circuits, building new distribution circuit tie points (including ties to CO-OPs or municipalities), or installation of targeted distribution automation schemes.

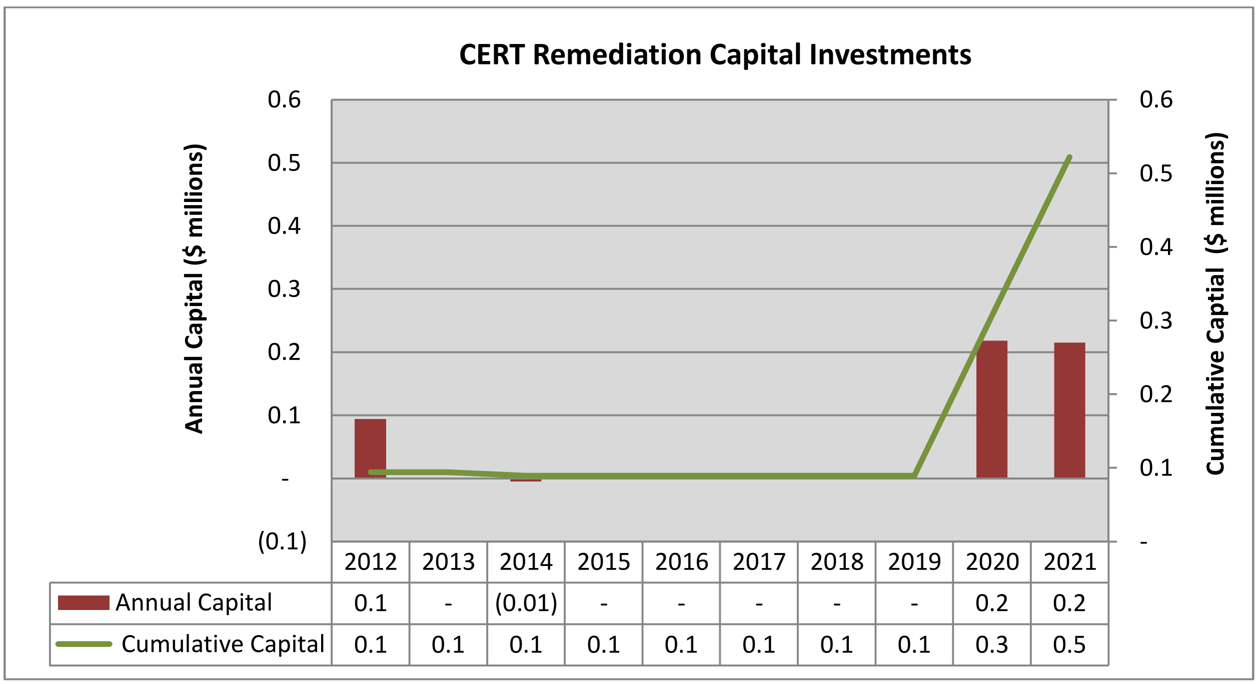
Projects will be generally selected on the bases of:

1. Greatest number of existing or potential CERT customers
2. Historical outage information
3. Scope of each individual project
4. Workload management

1.Q.2: Program Capital Investments

Figure 1.Q.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for CERT Remediation. In 2012-15, AIC invested $0.1 million in the program. In total, AIC estimates the program investment to be $0.5 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

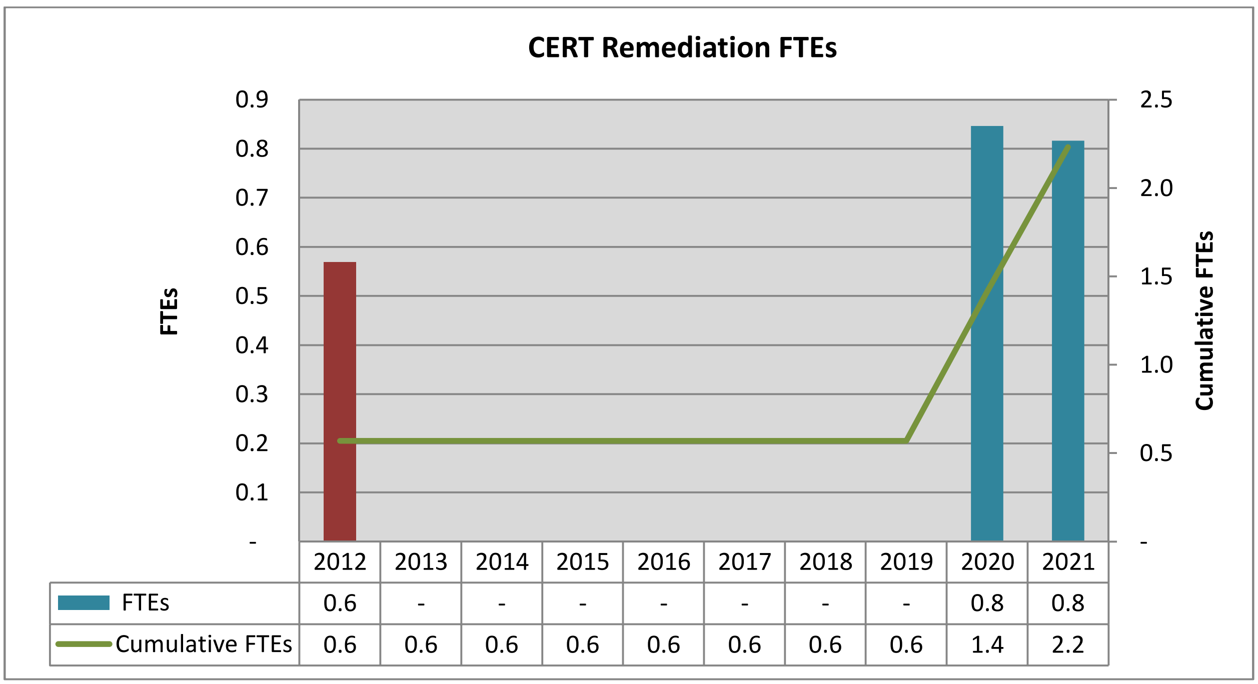
Figure 1.Q.2: CERT Remediation Capital Investments



1.Q.3: Program FTEs

Figure 1.Q.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were .6 FTEs for this program in 2012-15, with 2.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

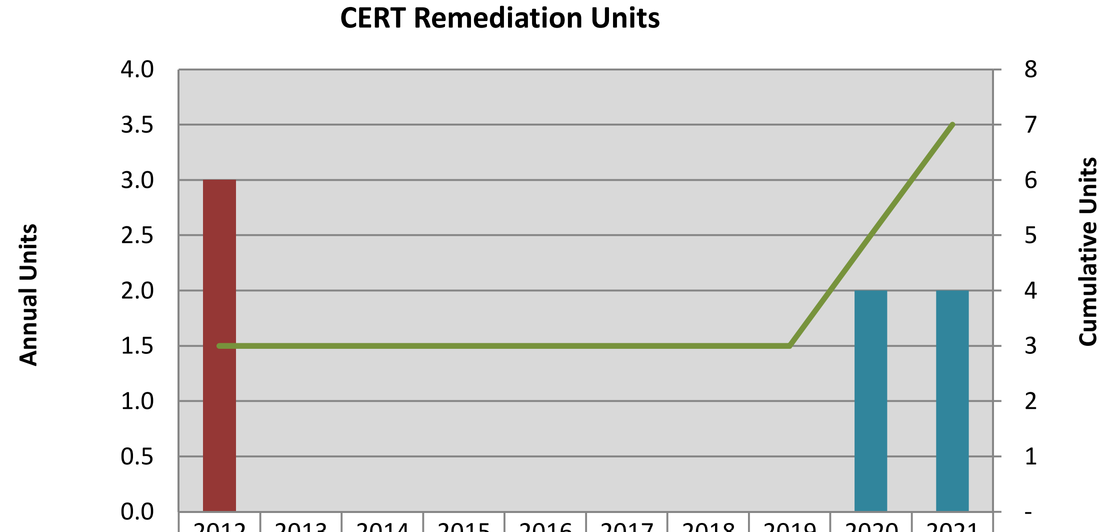
Figure 1.Q.3: CERT Remediation FTEs



1.Q.4: Program Schedule/Units

Figure 1.Q.4 shows the actual projects in 2012-15 and the projected number of CERT Remediation projects for 2016-21. In 2012-15, there were 3 units installed under this program. In total, 7 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are projects.

Figure 1.Q.4: CERT Remediation Units



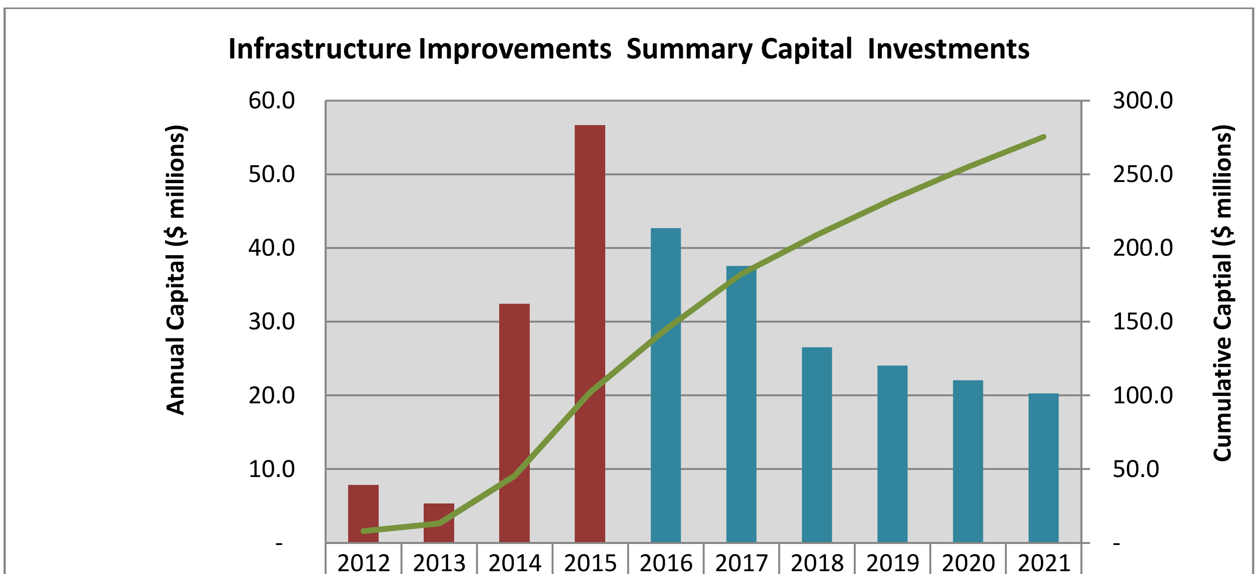
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	3	-	-	-	-	-	-	-	2	2
Cumulative Units	3	3	3	3	3	3	3	3	5	7

SECTION 1.R: Infrastructure Improvement Summary

1.R.1: Summary Capital Investments

Figure 1.R.1 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for all the Infrastructure Improvement programs under the Infrastructure and Modernization portion of the Act except the Training Facilities. In 2012-15, AIC invested $102.2 million in the program. In total, AIC estimates the program investment to be $275.3 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 1.R.1: Infrastructure Improvements Summary Capital Investments

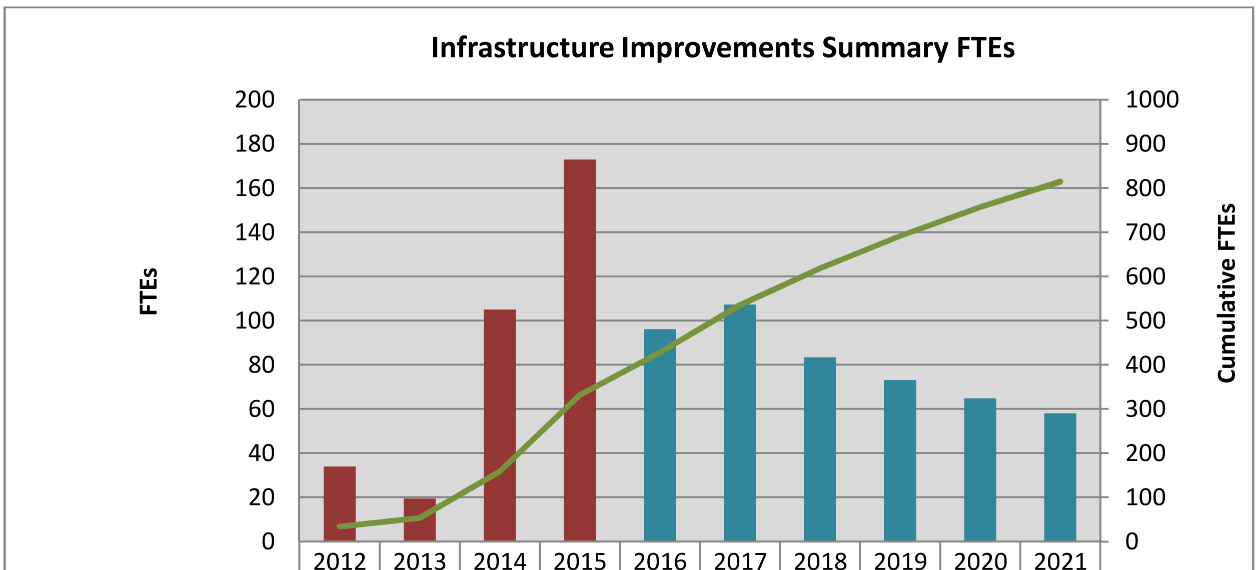


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	7.8	5.3	32.4	56.6	42.7	37.5	26.5	24.0	22.1	20.3
Cumulative Capital	7.8	13.1	45.5	102.2	144.8	182.4	208.9	232.9	255.0	275.3

1.R.2: Program FTEs

Figure1.R.2 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 331.4 FTEs for this program in 2012-15, with 814 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 1.R.2: Infrastructure Improvements Summary FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	34.0	19.5	104.9	172.9	96.1	107.3	83.4	73.0	64.9	57.9
Cumulative FTEs	34.0	53.6	158.5	331.4	427.5	534.8	618.2	691.2	756.1	814.0

SECTION 2: Training Facilities

2.A.1: Program Scope

In 2011, AIC conducted electric training at the Decatur training facility. The Training Facility program provided for upgrades to the existing Decatur facility and the establishment of a training center in the Belleville area. The Belleville facility provides an additional site to perform electric line training, smart grid equipment, and relay training.

The Belleville indoor training facilities consists of two state of the art training rooms, one which will accommodate computer training and one that will be designed to conduct conventional training. It also includes a high bay training room where hands-on training can be conducted on smart grid and relay equipment. In addition to classrooms, the facility includes a conference room, office space, restrooms, a student break/food area and storage.

The Belleville outdoor training facilities include:

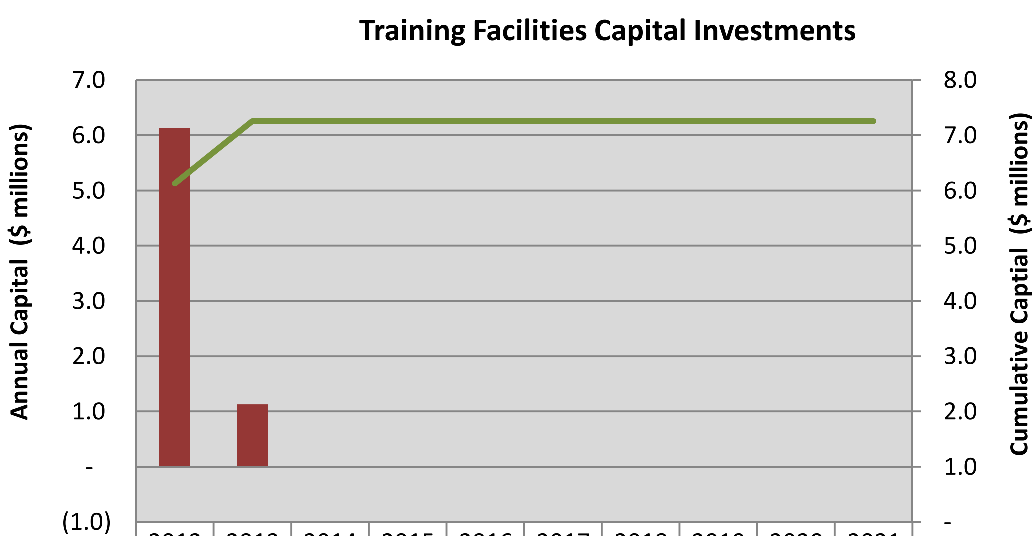
1. A pole climbing area that will consist of poles arranged in a circular form where lineman will perfect their abilities to climb.
2. A three phase line that will take 12kV and convert it to 4 kV which will allow the building of transformer banks, energized 4kV rubber glove training, switching training, etc.
3. A single and a three phase line that will be used as either 4kV or 12kV which will allow for the training of rubber gloving, hot sticking, secondary transferring, etc.
4. An area used to teach underground safety, locating, fault locating, building and installation of underground facilities and the operation of trenchers and backhoes.

Enhancements to the existing Decatur training facility included the improvement/construction of a roadway to better utilize the facility, addition of a second meter training room, installation of a second feed to the facility and construction of a small underground network training system.

2.A.2: Program Capital Investments

Figure 2.A.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the training facility program. In 2012-15, AIC invested $7.3 million in the program. In total, AIC estimates the program investment to be $7.3 million of incremental capital investment, plus associated expenses over the program period. This cost includes the purchase, renovation and training equipment for an existing building to house the training center in Belleville and the capital investments necessary to enhance the existing Decatur training facility. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 2.A.2: Training Facilities Capital Investments

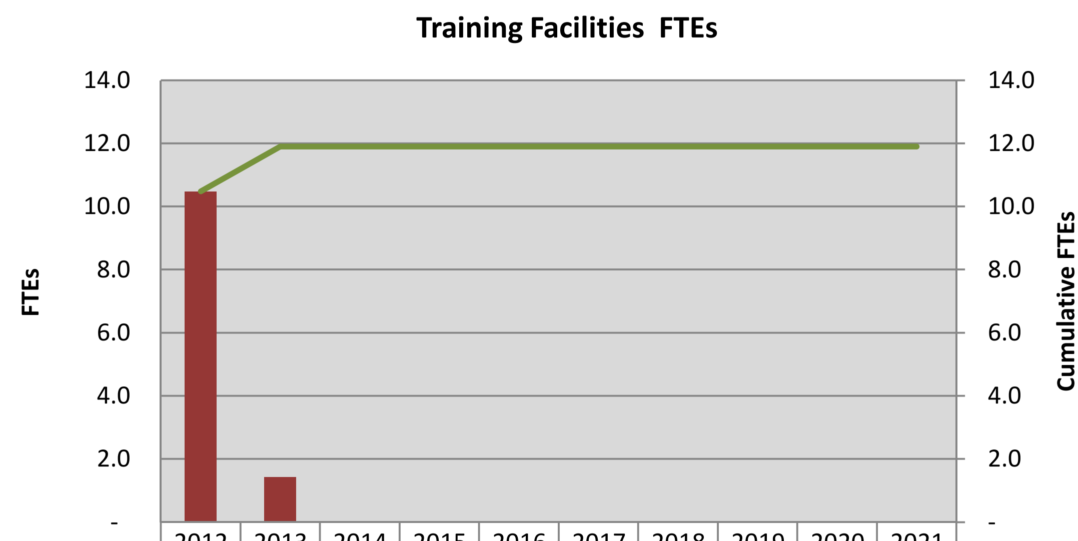


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	6.1	1.1	0.0	(0.0)	-	-	-	-	-	-
Cumulative Capital	6.1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3

2.A.3: Program FTEs

Figure 2.A.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 11.9 FTEs for this program in 2012-15 with 11.9 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft for both construction and operation of the training facilities. The FTEs below include the construction and additional operational requirements for the new and upgraded training facilities.

Figure 2.A.3: Training Facilities FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	10.5	1.4	-	-	-	-	-	-	-	-
Cumulative FTEs	10.5	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9

SECTION 3: Distribution Automation

SECTION 3.A: Primary Distribution Automation

3.A.1: Program Scope

This program is intended to install distribution level (<15kV) automation schemes in a self-isolation mode. In most cases smart switching devices shall be installed (at least one bisecting the feeder backbone and at least one tying it to a different feeder) in order to facilitate the automatic isolation of the faulted feeder section and the restoration of the remaining load. This program also includes adding substation SCADA (System Control & Data Acquisition) including metering and control on distribution substation reclosers (<15kV) that are not currently so equipped. This may require the replacement of the existing fault interrupting device (example oil circuit reclosers) in order to provide this capability.

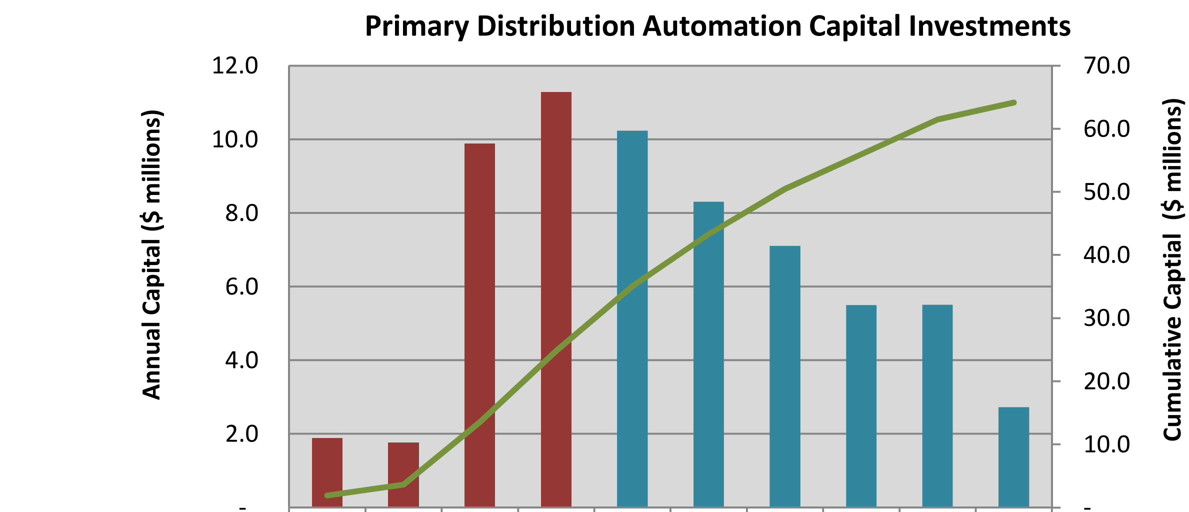
These projects will be generally selected on the basis of:

1. Greatest customer count
2. Historical outage information
3. Complexity of the project
4. Communication infrastructure requirements
5. Workload management

3.A.2: Program Capital Investments

Figure 3.A.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Primary Distribution Automation program. In 2012-15, AIC invested $24.8 million in the program. In total, AIC estimates the program investment to be $64.2 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.A.2: Primary Distribution Automation Capital Investments

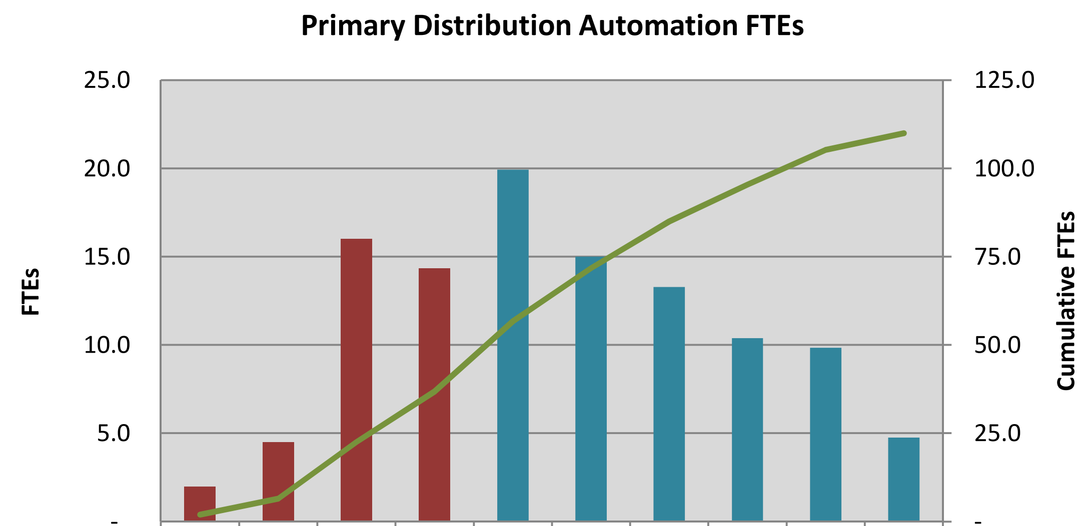


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	1.9	1.8	9.9	11.3	10.2	8.3	7.1	5.5	5.5	2.7
Cumulative Capital	1.9	3.7	13.5	24.8	35.0	43.3	50.4	55.9	61.4	64.2

3.A.3: Program FTEs

Figure 3.A.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 36.8 FTEs for this program in 2012-15, with 109.9 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.A.3: Primary Distribution Automation FTEs

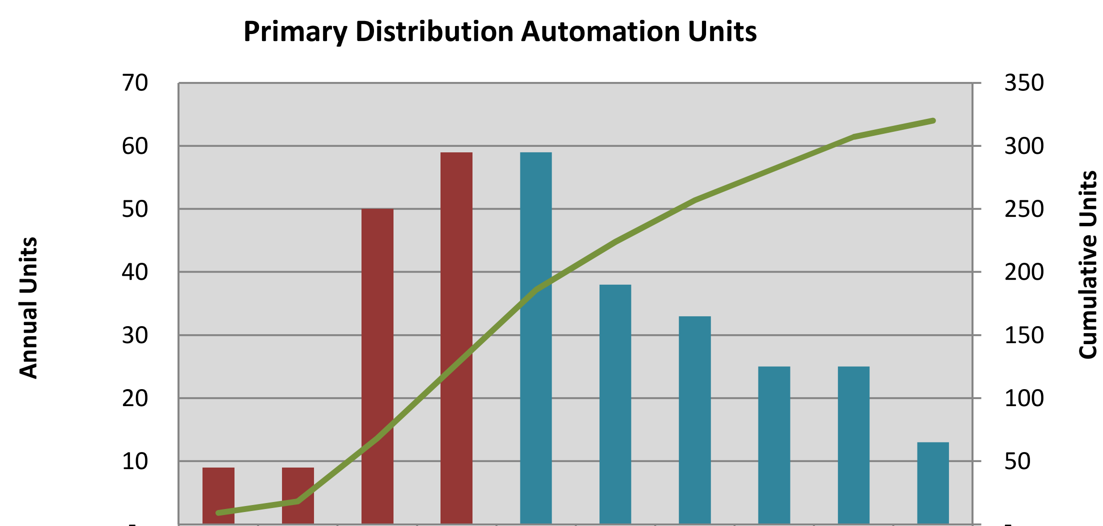


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	2.0	4.5	16.0	14.3	19.9	15.0	13.3	10.4	9.8	4.8
Cumulative FTEs	2.0	6.5	22.5	36.8	56.7	71.7	85.0	95.4	105.2	109.9

3.A.4: Program Schedule/Units

Figure 3.A.4 shows the actual automation projects in 2012-15 and the projected number of primary distribution projects in 2016-21. In 2012-15 there were 127 units installed under this program. In total, 320 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown below are projects.

Figure 3.A.4: Primary Distribution Automation Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	9	9	50	59	59	38	33	25	25	13
Cumulative Units	9	18	68	127	186	224	257	282	307	320

SECTION 3.B: Communication Infrastructure

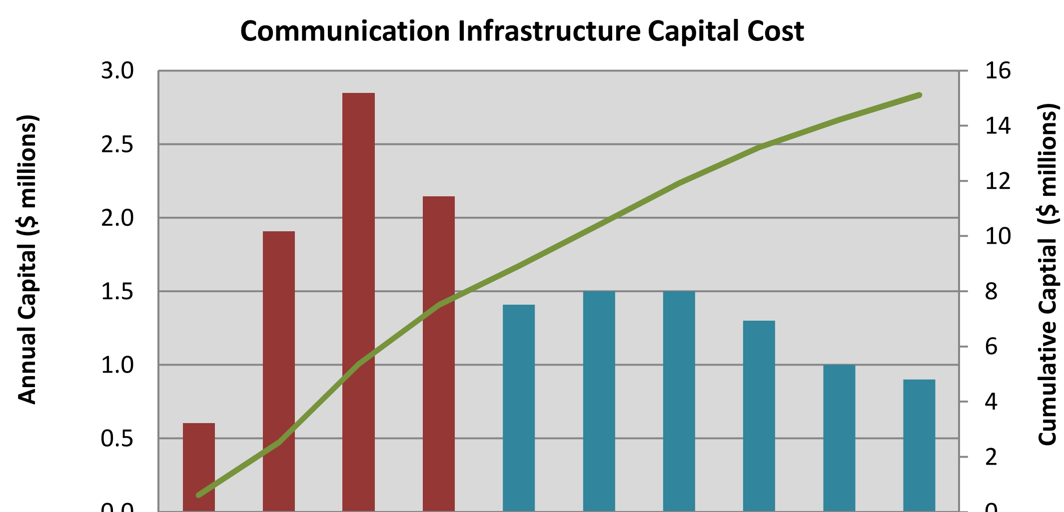
3.B.1: Program Scope

The AIC Smart Grid Communications Network (SGCN) is being designed and implemented based upon a multi-layered network communications architecture model. The model will incorporate Internet Protocol (IP) services to ensure maximum interoperability based upon current standards that are both available and are generally accepted as best practice in today's market and industry. To the maximum extent possible, products/solutions will comply with standards that have been deemed relevant by National Institute of Standards and Technology (NIST) and the Smart Grid Interoperability Panel (SGIP). The layers of the communications network will consist primarily of field area networks (FAN), local area networks (LAN) and wide area networks (WAN). The SGCN will provide the required functionality of supporting the communications backhaul for centralized system applications to exchange information with the smart devices installed throughout the AIC electrical system. Both private and public service networks and wired and wireless technologies will be leveraged as appropriate to not only address performance and cyber security requirements, but to also optimize costs. Cyber security (to include, but not be limited to, the implementation of best-practice security processes, procedures and countermeasures) will be incorporated from an end-to-end, holistic perspective. It shall incorporate a defense-in-depth methodology and will be designed into the solution at the initial planning phase while maintained and re-evaluated throughout the solutions' ongoing lifecycle support timeline.

3.B.2: Program Capital Investments

Figure 3.B.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Communications Infrastructure. In 2012-15, AIC invested $7.5 million in the program. In total, AIC estimates the program investment to be $15.1 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.B.2: Communication Infrastructure Capital Investments

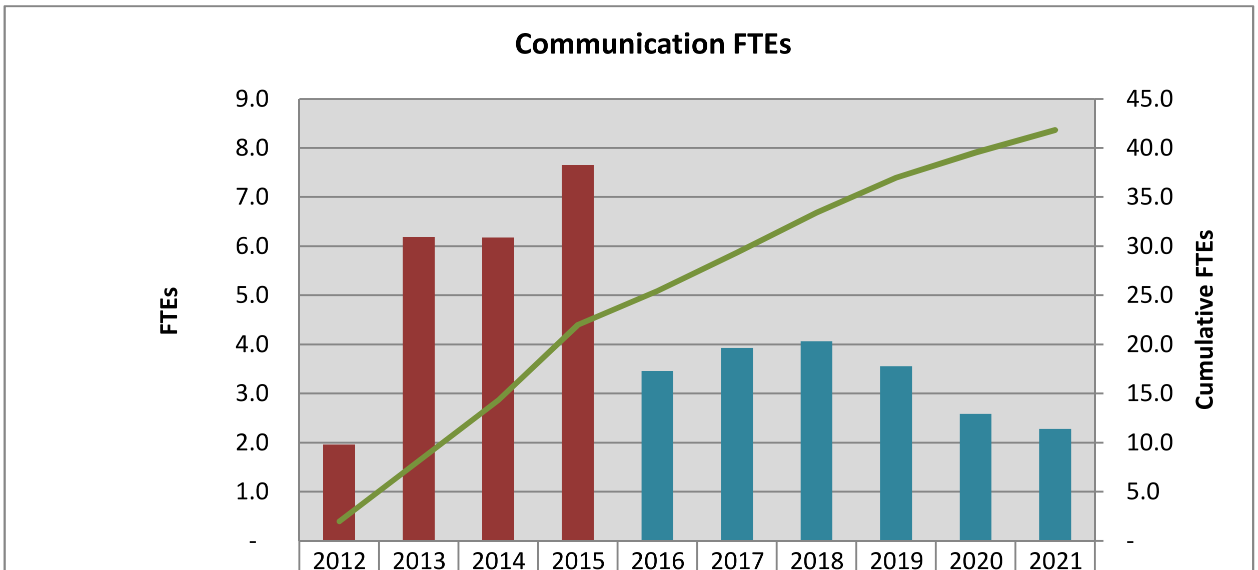


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.6	1.9	2.8	2.1	1.4	1.5	1.5	1.3	1.0	0.9
Cumulative Capital	0.6	2.5	5.4	7.5	8.9	10.4	11.9	13.2	14.2	15.1

3.B.3: Program FTEs

Figure 3.B.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 22.0 FTEs for this program in 2012-15 with 41.8 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.B.3: Communication Infrastructure FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	2.0	6.2	6.2	7.7	3.5	3.9	4.1	3.6	2.6	2.3
Cumulative FTEs	2.0	8.1	14.3	22.0	25.4	29.3	33.4	37.0	39.6	41.8

SECTION 3.C: High Voltage Distribution Relaying

3.C.1: Program Scope

This program replaces select electro-mechanical (EM) relays with microprocessor (MP) based relays on AIC's high voltage distribution system. The proposal is to complete the replacement of all network terminals and replace radial terminals that have historically shown high numbers of operations.

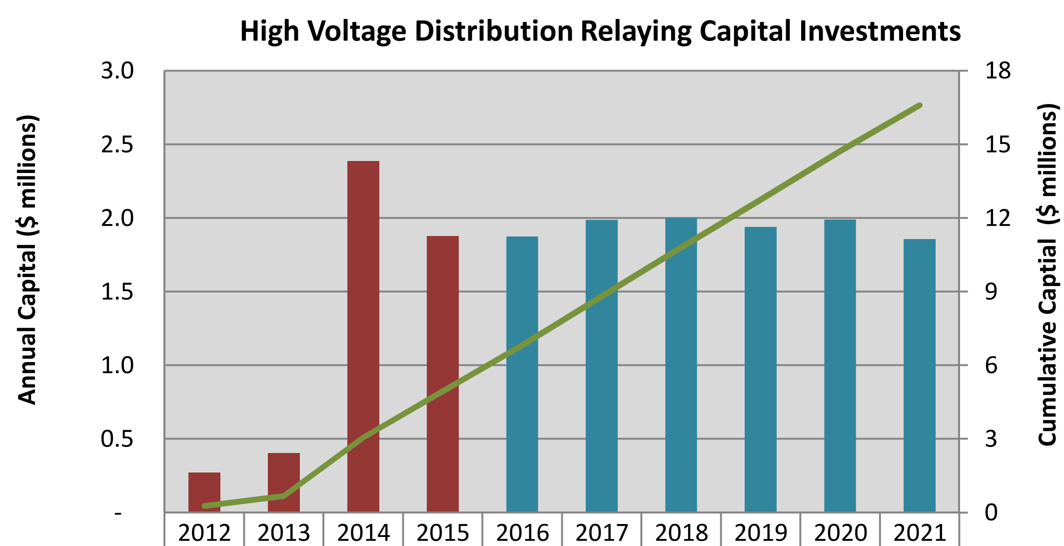
Project selection will be generally based on.

1. Historical performance
2. Greatest number of customers
3. Complexity of project
4. Workload management

3.C.2: Program Capital Investments

Figure 3.C.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the High Voltage Distribution Relaying program. In 2012-15, AIC invested $4.9 million in the program. In total, AIC estimates the program investment to be $16.6 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.C.2: High Voltage Distribution Relaying Capital Investments

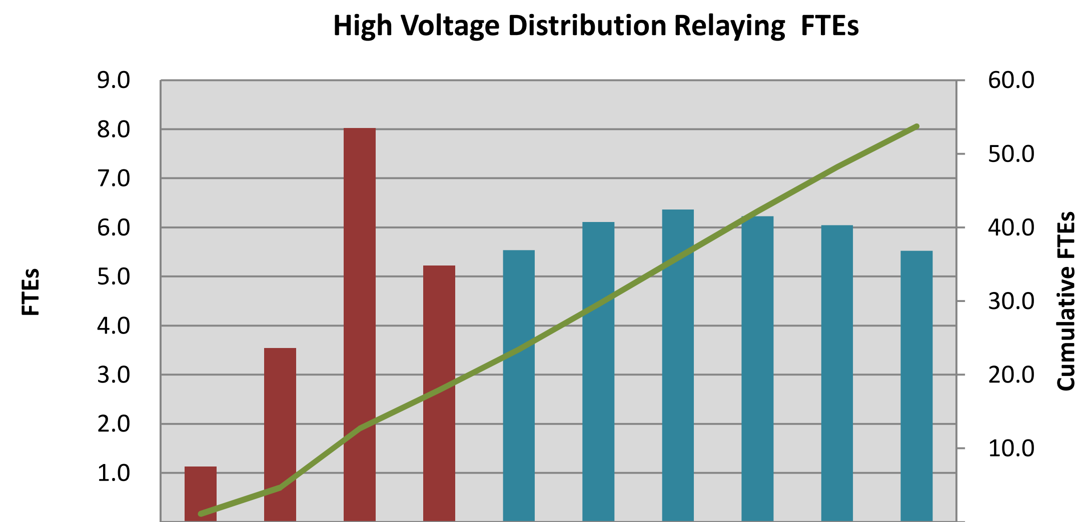


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.3	0.4	2.4	1.9	1.9	2.0	2.0	1.9	2.0	1.9
Cumulative Capital	0.3	0.7	3.1	4.9	6.8	8.8	10.8	12.7	14.7	16.6

3.C.3: Program FTEs

Figure 3.C.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 17.9 FTEs for this program in 2012-15, with 53.7 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.C.3: High Voltage Distribution Relaying FTEs

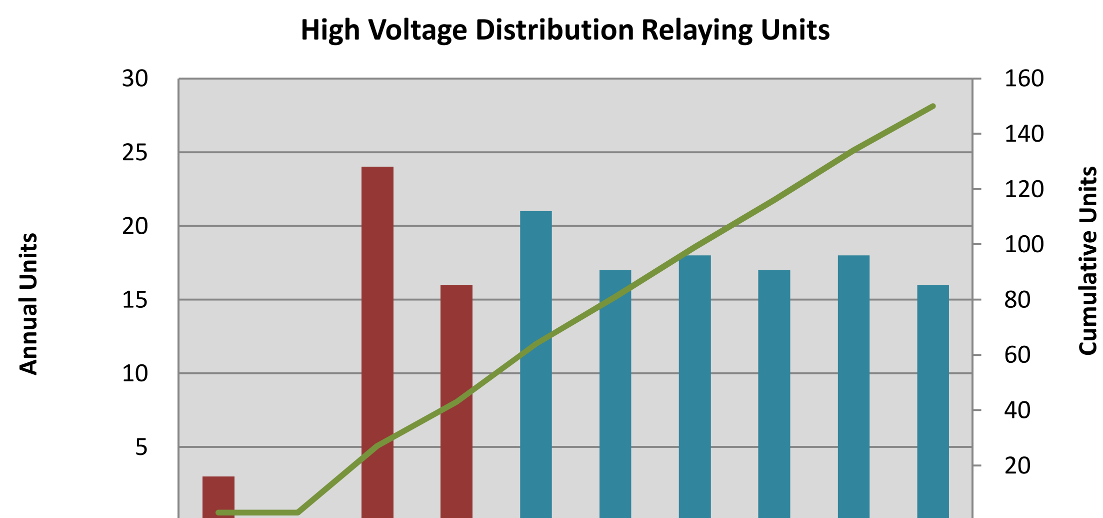


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	1.1	3.5	8.0	5.2	5.5	6.1	6.4	6.2	6.0	5.5
Cumulative FTEs	1.1	4.7	12.7	17.9	23.4	29.6	35.9	42.1	48.2	53.7

3.C.4: Program Schedule/Units

Figure 3.C.4 shows the actual number of relay terminals replaced in 2012-15 and the projected number of high voltage distribution relay terminals to be replaced in 2016-21. In 2012-15 there were 43 units installed under this program. In total, 150 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed.   Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are relay terminals replaced.

Figure 3.C.4: High Voltage Distribution Relaying Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	3	-	24	16	21	17	18	17	18	16
Cumulative Units	3	3	27	43	64	81	99	116	134	150

SECTION 3.D: Distribution Substation Metering

3.D.1: Program Scope

This program adds distribution substation transformer and circuit load metering that will be remotely read and reported through the SCADA system in substations that currently do not have that capability.

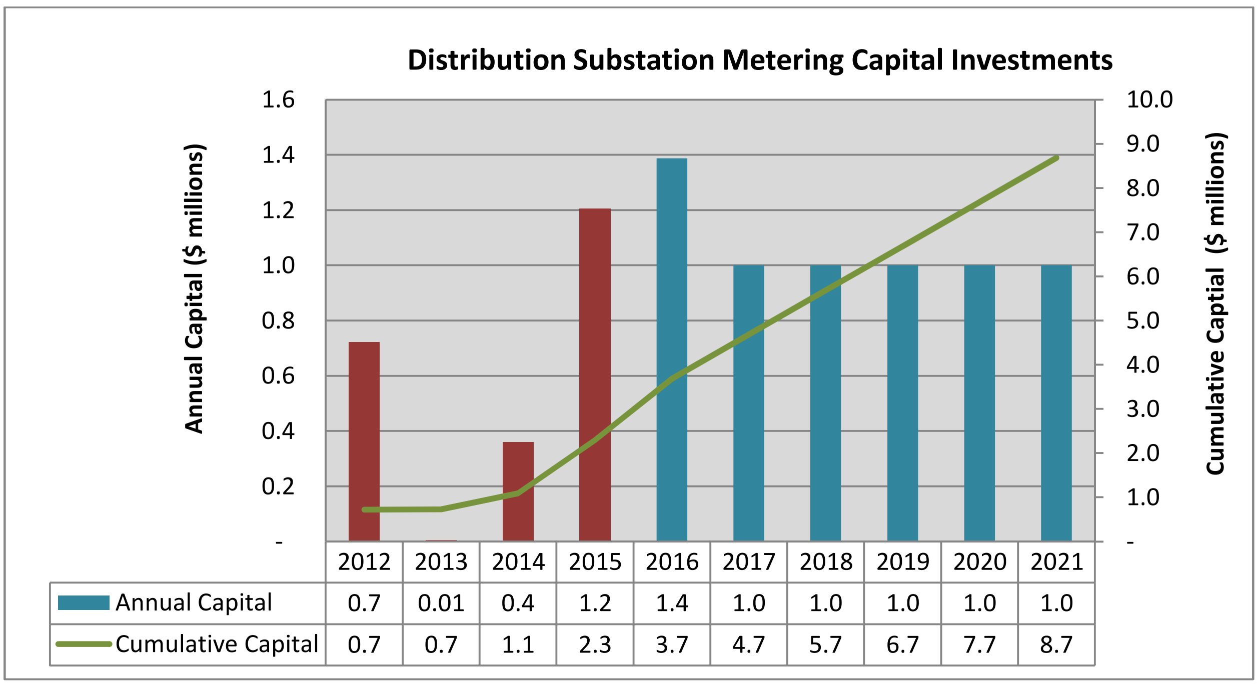
Project selection will be generally based on:

1. Load vs. equipment ratings
2. Communication availability
3. Criticality of load
4. Workload management

3.D.2: Program Capital Investments

Figure 3.D.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Distribution Substation Metering program. In 2012-15, AIC invested $2.3 million in the program. In total, AIC estimates the program investment to be $8.7 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.D.2: Distribution Substation Metering Capital Investments

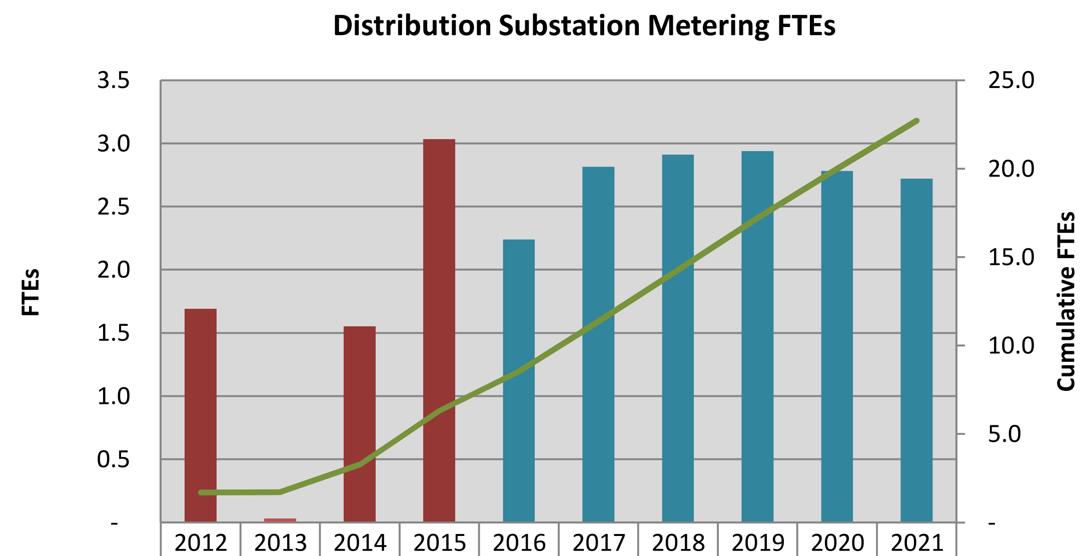


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.7	0.01	0.4	1.2	1.4	1.0	1.0	1.0	1.0	1.0
Cumulative Capital	0.7	0.7	1.1	2.3	3.7	4.7	5.7	6.7	7.7	8.7

3.D.3: Program FTEs

Figure 3.D.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 6.3 FTEs for this program in 2012-15 with 22.7 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.D.3: Distribution Substation Metering FTEs

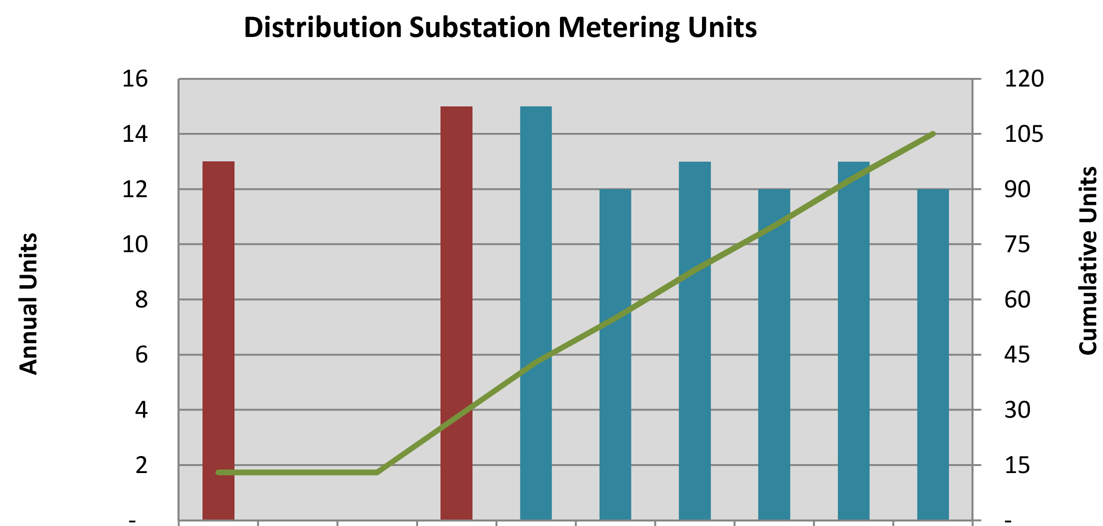


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	1.7	0.0	1.6	3.0	2.2	2.8	2.9	2.9	2.8	2.7
Cumulative FTEs	1.7	1.7	3.3	6.3	8.5	11.4	14.3	17.2	20.0	22.7

3.D.4: Program Schedule/Units

Figure 3.D.4 shows the actual number of substations in 2012-15 and the projected number of distribution substations metering projects in 2016-21. In 2012-15, there were 28 units installed under this program. In total, 105 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are substations for 2012-13 and projects for 2014-2021.

Figure 3.D.4: Distribution Substation Metering Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	13	-	-	15	15	12	13	12	13	12
Cumulative Units	13	13	13	28	43	55	68	80	93	105

SECTION 3.E: High Voltage Distribution Automation

3.E.1: Program Scope

This program will install smart switching devices on select high voltage distribution lines that serve more than 10MVA of load or have more than 2,500 customers. This will facilitate the automatic isolation of any faulted line section and the restoration of the remaining loads. Smart switching devices will be installed on select 34kV and 69kV lines in order to facilitate the automatic isolation of any faulted tail-end line section and the restoration of the remaining loads.

This program also includes strategically placed Faulted Circuit Indicators (FCI's) that provide status data back into SCADA. These units are self-contained, self-powered and utilize communication technology for reporting back into AIC's Distribution SCADA System. Non-SCADA reporting units could be considered at tap locations, but main-line applications would likely include reporting capabilities.

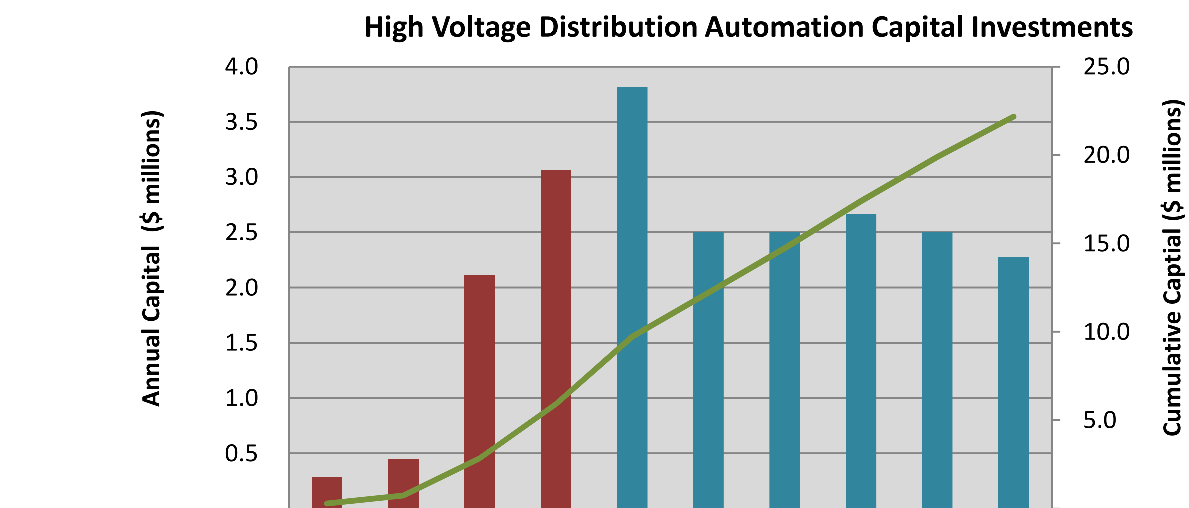
Projects will be selected generally based on:

1. Greatest number of customers
2. Circuit configuration
3. System benefit
4. Historical outage information
5. Communication availability
6. Workload management

3.E.2: Program Capital Investments

Figure 3.E.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the High Voltage Distribution Automation program. In 2012-15, AIC invested $5.9 million in the program. In total, AIC estimates the program investment to be $22.2 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.E.2: High Voltage Distribution Automation Capital Investments

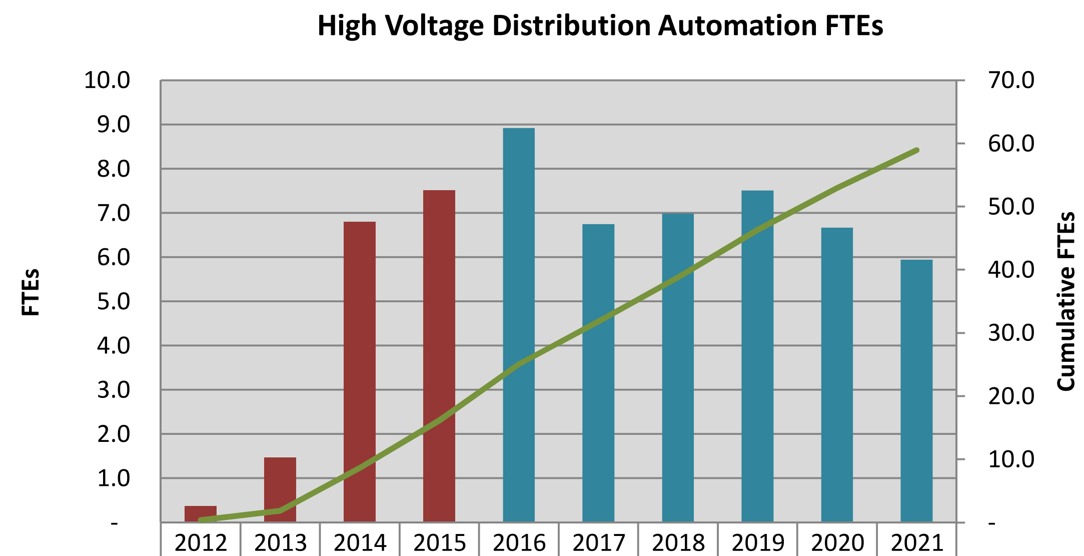


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.3	0.4	2.1	3.1	3.8	2.5	2.5	2.7	2.5	2.3
Cumulative Capital	0.3	0.7	2.8	5.9	9.7	12.2	14.7	17.4	19.9	22.2

3.E.3: Program FTEs

Figure 3.E.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 16.1 FTEs for this program in 2012-15, with 58.9 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.E.3: High Voltage Distribution Automation FTEs

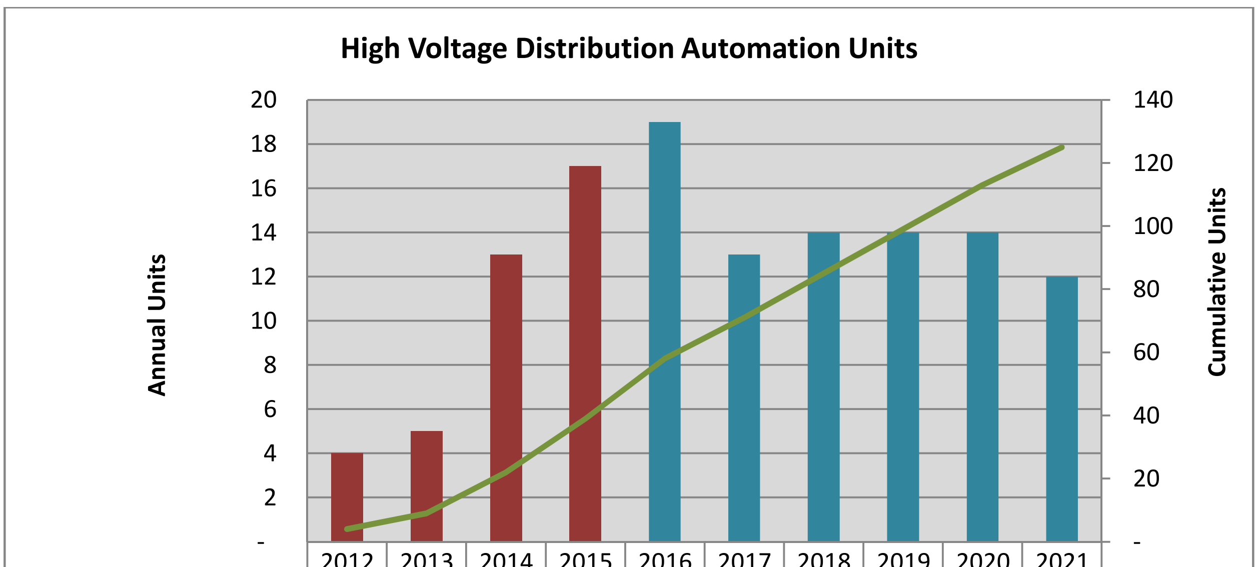


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	0.4	1.5	6.8	7.5	8.9	6.7	7.0	7.5	6.7	5.9
Cumulative FTEs	0.4	1.8	8.6	16.1	25.1	31.8	38.8	46.3	53.0	58.9

3.E.4: Program Schedule/Units

Figure 3.E.4 shows the actual switches or devices installed in 2012-15 and the projected number of high voltage distribution automation projects in 2016-21. In 2012-15, there were 39 units installed under this program. In total, 125 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are switches for 2012-13 and projects for 2014-21.

Figure 3.E.4: High Voltage Distribution Automation Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	4	5	13	17	19	13	14	14	14	12
Cumulative Units	4	9	22	39	58	71	85	99	113	125

SECTION 3.F: Smart Grid Test Bed

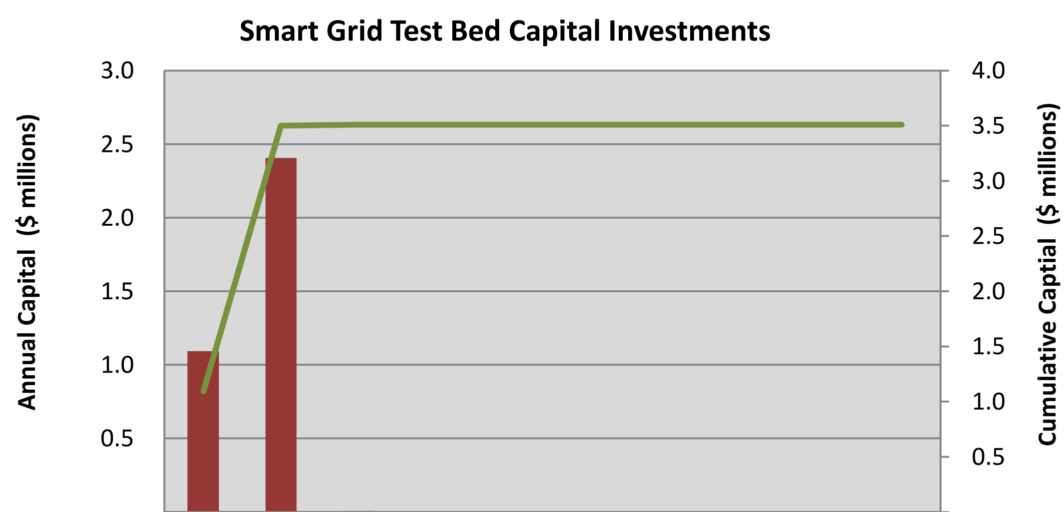
3.F.1: Program Scope

This program is to provide the necessary electric distribution system infrastructure where Smart Grid related equipment, services and business models can be tested, within a utility scale environment, for the purpose of demonstrating that the equipment or systems function as designed. The primary Smart Grid Test Bed infrastructure is comprised of a new 69/12kV substation, including two 12kV distribution circuits, located adjacent to the University of Illinois Urbana-Champaign (UIUC) campus. The secondary Smart Grid Test Bed infrastructure is comprised of existing distribution system equipment whose sources are the Mt. Zion 121, Rt. 51, and Baltimore Ave. substations within the Decatur service territory. This secondary site includes a portion of the existing pilot programs where AIC is testing distribution automation and volt/VAR optimization projects.

3.F.2: Program Capital Investments

Figure 3.F.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Smart Grid Test Bed program. In 2012-15, AIC invested \$3.5 million in the program. In total, AIC estimates the program investment to be \$3.5 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.F.2: Smart Grid Test Bed Capital Investments

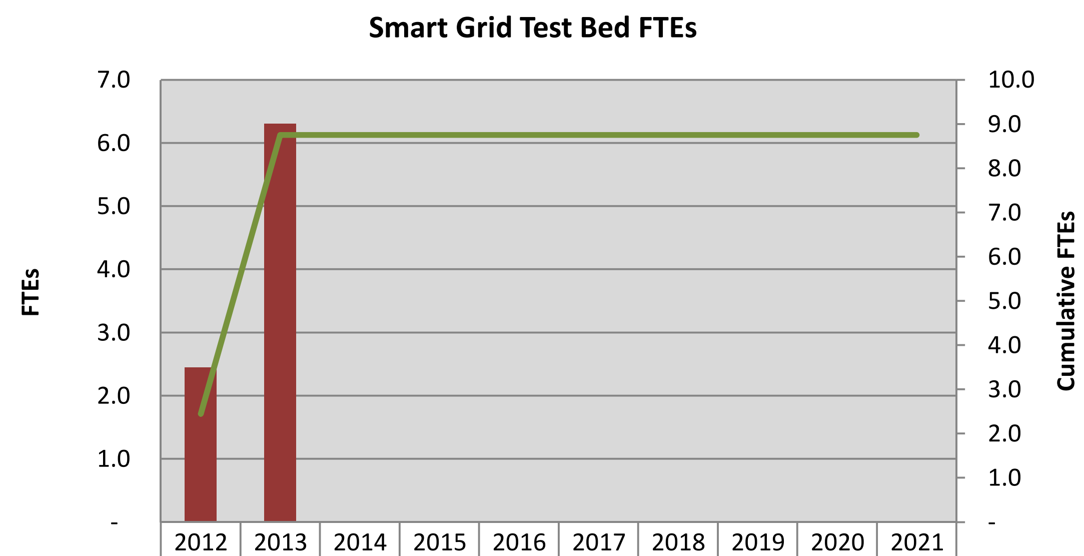


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	1.1	2.4	0.01	-	-	-	-	-	-	-
Cumulative Capital	1.1	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

3.F.3: Program FTEs

Figure 3.F.3 represents the estimated FTEs required to perform the scheduled scope of work and the operation of the test beds over the program life. There were 8.8 FTEs for this program in 2012-15 with 8.8 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.F.3: Smart Grid Test Bed FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	2.4	6.3	-	-	-	-	-	-	-	-
Cumulative FTEs	2.4	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8

SECTION 3.G: Underground Network Modernization

3.G.1: Program Scope

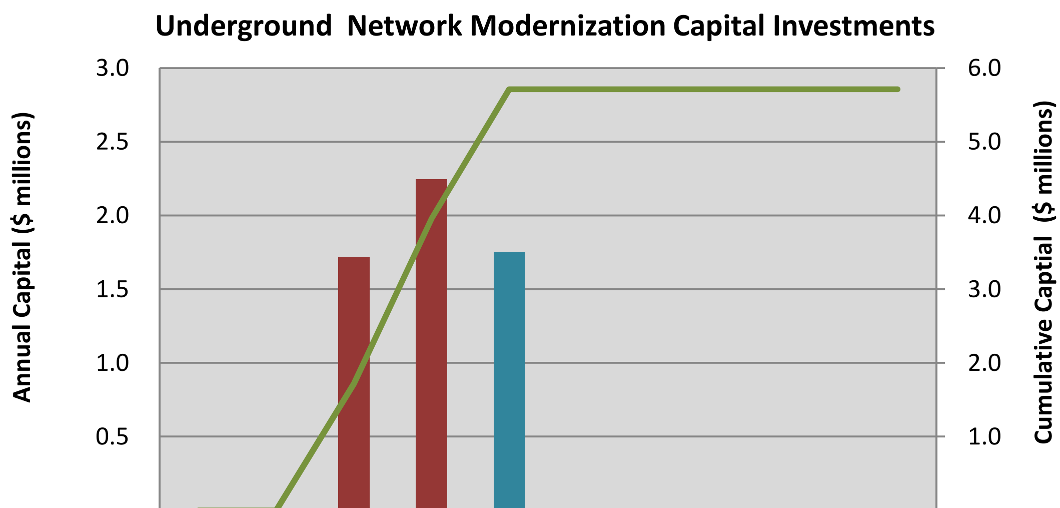
This program is to install modern solid state network protectors with SCADA remote communication and monitoring capabilities on the underground network systems. This will ensure the safe isolation of network faults and allow for maintenance without time consuming switching or arc flash mitigation.

This system can allow for the remote monitoring of transformer temperatures as well as system current flows which aids in tracking the health of the network. The current system provides no information on whether a protector has opened unless the vault is physically checked by a line crew.

3.G.2: Program Capital Investments

Figure 3.G.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2012-2021, for the Underground Network Modernization program. This program was added as a new Plan program in 2014. In 2012-15, AIC invested $4.0 million in the program. In total, AIC estimates the program investment to be $5.7 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.G.2: Underground Network Modernization Capital Investments

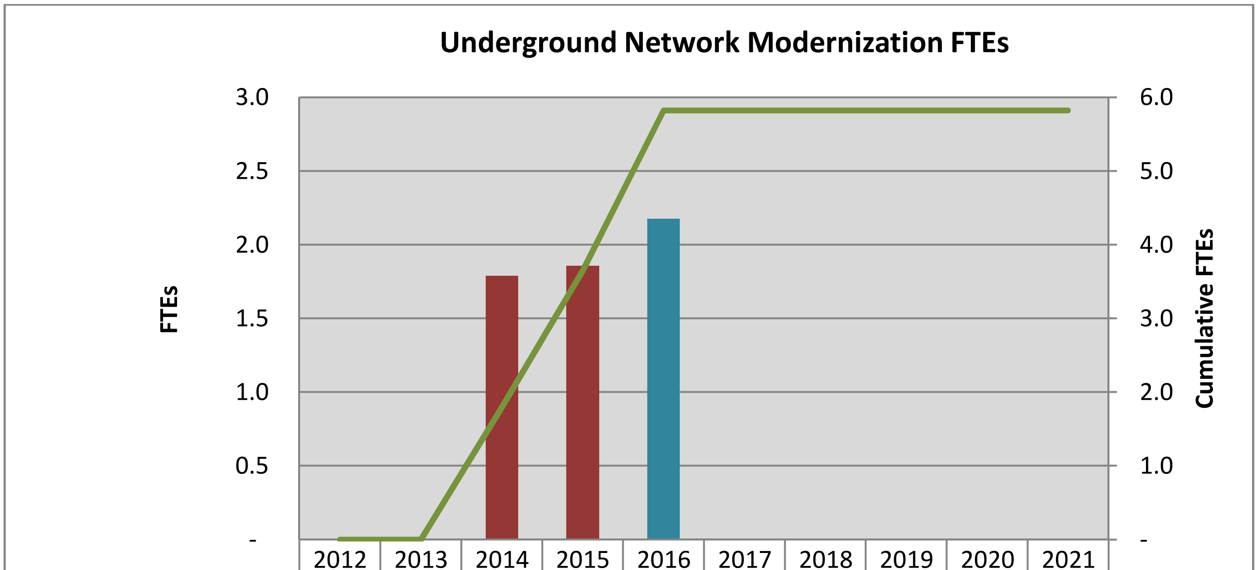


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	-	1.7	2.2	1.8	-	-	-	-	-
Cumulative Capital	-	-	1.7	4.0	5.7	5.7	5.7	5.7	5.7	5.7

3.G.3: Program FTEs

Figure 3.G.3 represents the estimated FTEs required to perform the scheduled scope of work for 2012-2021. There were 3.6 FTEs for this program in 2012-15 with 5.8 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.G.3: Underground Network Modernization FTEs

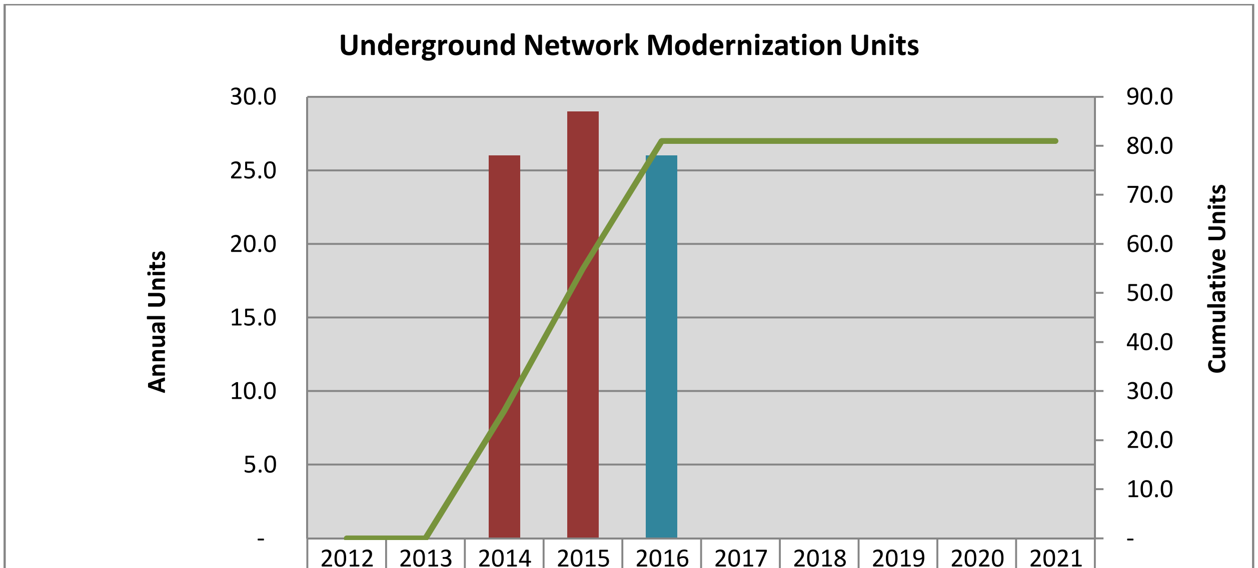


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	-	1.8	1.9	2.2	-	-	-	-	-
Cumulative FTEs	-	-	1.8	3.6	5.8	5.8	5.8	5.8	5.8	5.8

3.G.4: Program Schedule/Units

Figure 3.G.4 shows the projected number of underground network protectors to be installed in 2012-2021. In 2012-15, there were 55 units installed under this program. In total, 81 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are the protectors upgraded or replaced.

Figure 3.G.4: Underground Network Modernization Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	-	26	29	26	-	-	-	-	-
Cumulative Units	-	-	26	55	81	81	81	81	81	81

SECTION 3.H: Distributed Energy Resource Integration

3.H.1: Program Scope

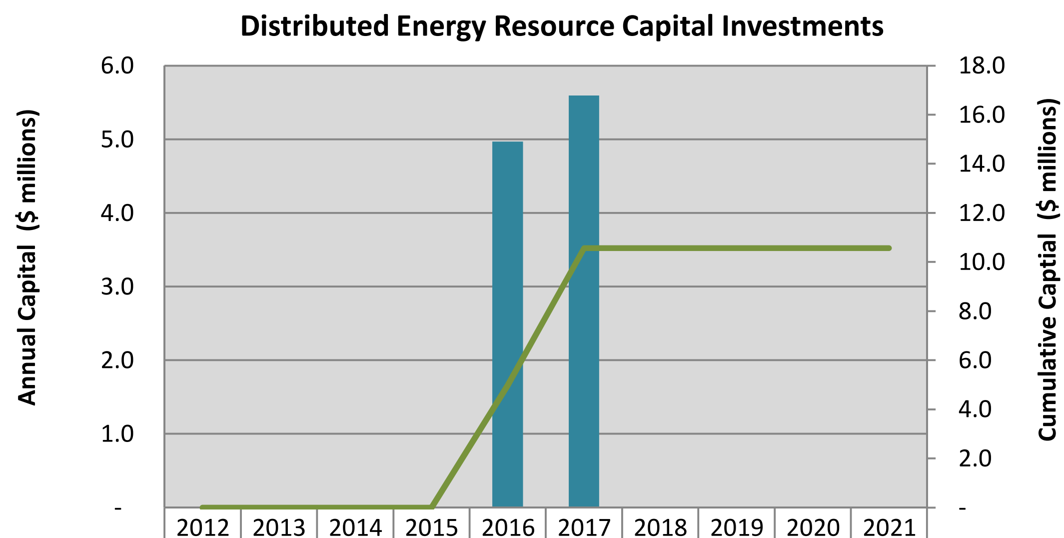
As more distributed energy resources, including renewable resources, are added to the distribution grid, and our customers desire continued improvements in electric system reliability and resiliency, Ameren Illinois will need to better understand and develop the expertise to safely, efficiently, and cost-effectively integrate distributed energy resources into the electric distribution grid, up to and including the ability to island sections of the grid as appropriate. This program is to install at and in the vicinity of Ameren Illinois' Technology Applications Center (TAC) in Champaign Illinois distributed energy resources (battery storage, solar, wind, and natural gas generation), demand management systems, communication and control systems, and associated distribution lines, transformers, and switchgear to provide the Smart Grid enabling infrastructure to test distributed energy resource control, integration, dispatch, system islanding, microgrid functionality, and local demand management.

This Smart Grid enabling infrastructure will allow Ameren Illinois to test and develop the capabilities to manage demand, control and economically dispatch customer and utility owned distributed energy resources to enable grid congestion management, assist in voltage control, provide operating reserves, provide frequency regulation, and increase reliability. Ameren Illinois currently does not have the appropriate infrastructure to fully test and develop these capabilities. These capabilities will assist Ameren Illinois in the integration of distributed energy resources and the creation of microgrids throughout its electric delivery system; as such resources and facilities become available. This testing infrastructure will also enhance Ameren Illinois' on-grid smart grid testing capabilities available for external applicant technology testing.

3.H.2: Program Capital Investments

Figure 3.H.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for Distributed Energy Resource program. AIC estimates the program investment to be $10.6 million of incremental capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.H.2: Distributed Energy Resource Capital Investments

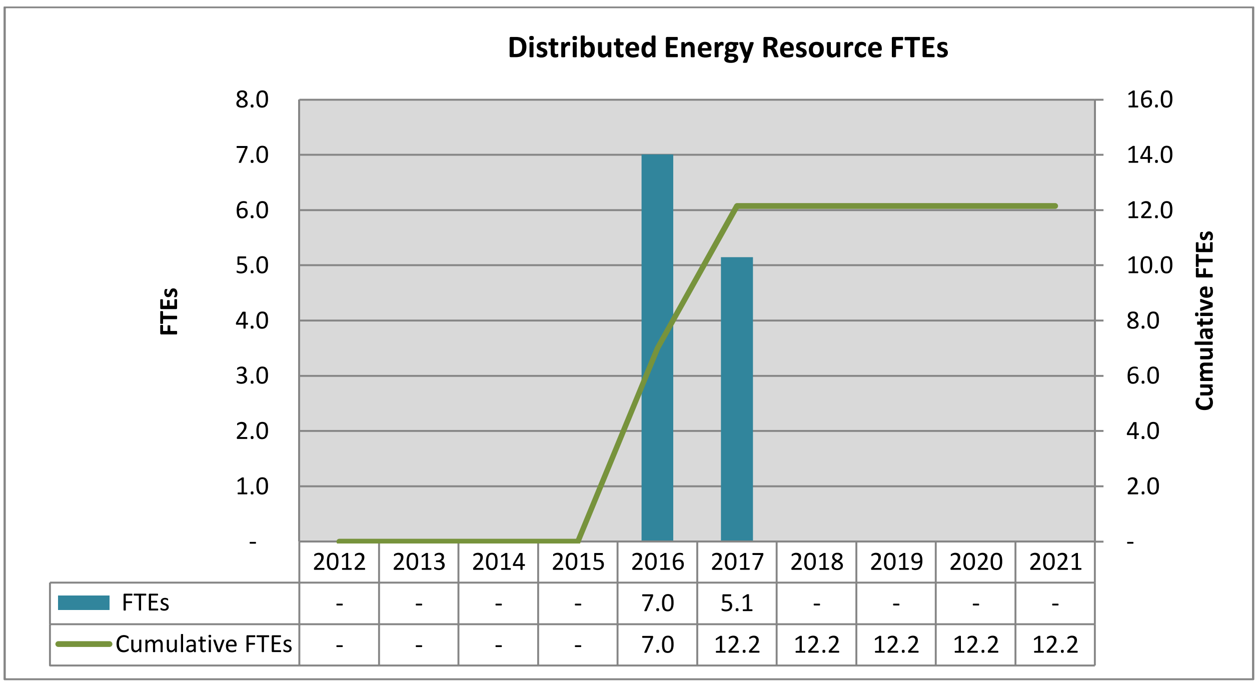


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	-	-	-	5.0	5.6	-	-	-	-
Cumulative Capital	-	-	-	-	5.0	10.6	10.6	10.6	10.6	10.6

3.H.3: Program FTEs

Figure 3.H.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There are 12.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.H.3: Distributed Energy Resource FTEs

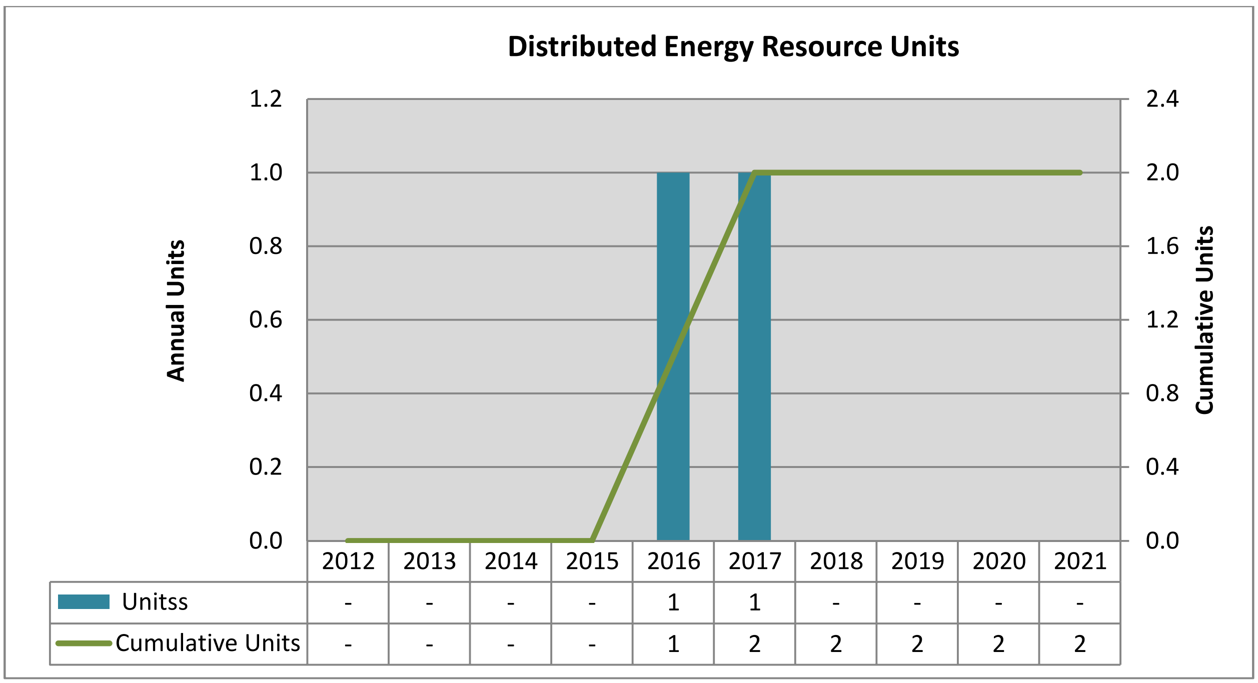


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	-	-	-	7.0	5.1	-	-	-	-
Cumulative FTEs	-	-	-	-	7.0	12.2	12.2	12.2	12.2	12.2

3.H.4: Program Schedule/Units

Figure 3.H.4 shows the projected number of projects to be installed in 2012-2021. In total, 2 projects are planned to be completed in 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are projects.

Figure 3.H.4: Distributed Energy Resource Units

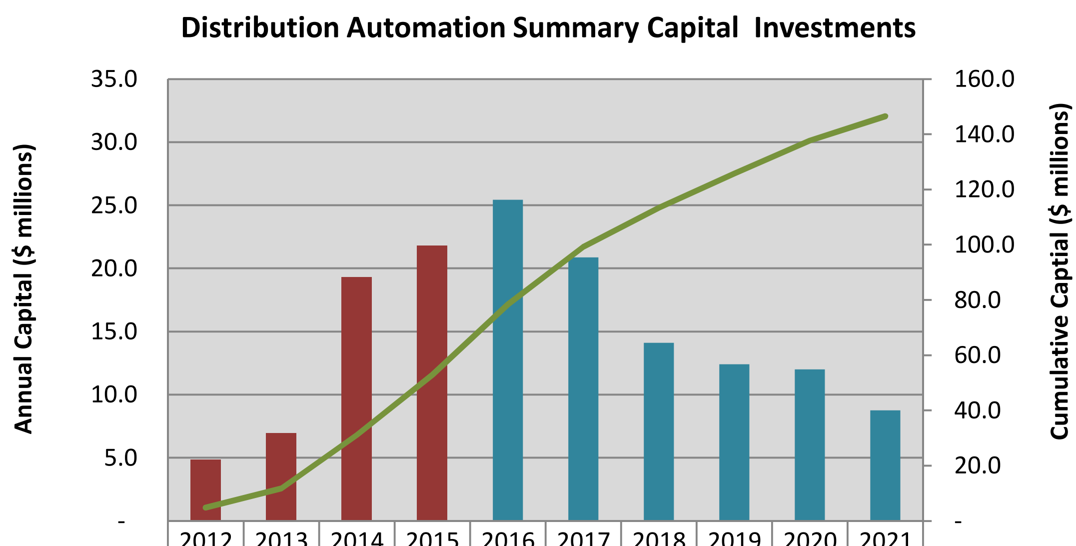


SECTION 3.I: Distribution Automation Summary

3.I.1: Summary of Capital Investments

Figure 3.I.1 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Distribution Automation portion of the Act's Smart Grid investment, except for the AMI program. In 2012-15, AIC invested $52.9 million in the program. In total, AIC estimates the program investment to be $146.5 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 3.I.1: Distribution Automation Summary Capital Investments

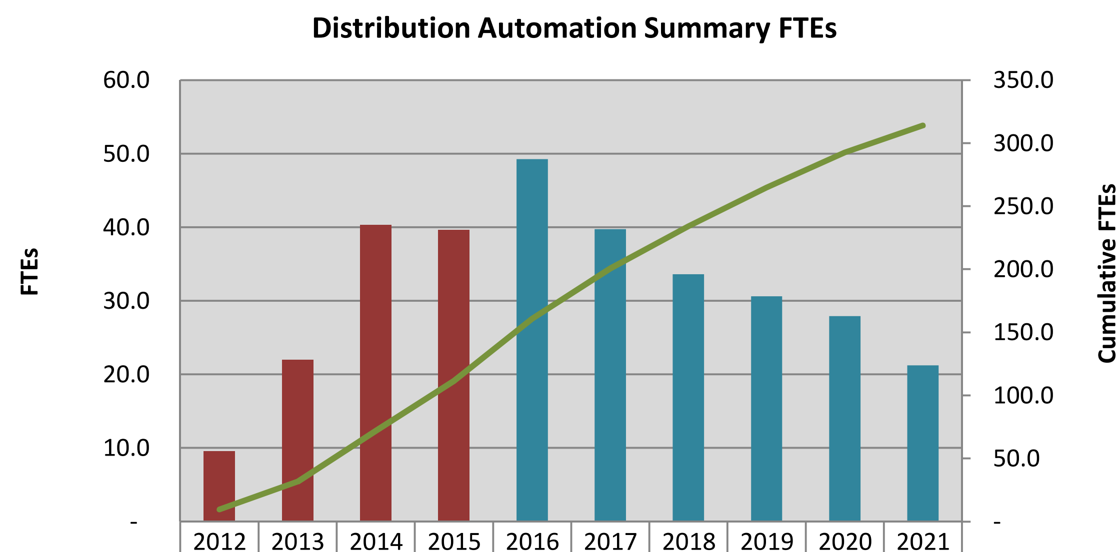


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	4.9	6.9	19.3	21.8	25.4	20.9	14.1	12.4	12.0	8.8
Cumulative Capital	4.9	11.8	31.1	52.9	78.4	99.2	113.3	125.7	137.7	146.5

3.I.2: Summary FTEs

Figure 3.I.2 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 111.5 FTEs for this program in 2012-15 with 313.8 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 3.I.2: Distribution Automation Summary FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	9.6	22.0	40.3	39.6	49.3	39.7	33.6	30.6	27.9	21.2
Cumulative FTEs	9.6	31.6	71.9	111.5	160.8	200.5	234.1	264.7	292.6	313.8

SECTION 4: Advanced Metering Infrastructure (AMI)

4.A.1: Program Scope

The AIC AMI Plan describes how AIC intends to install an Advanced Metering Infrastructure and institute operational changes in order to serve no less than 62% of its electric customers by 2nd quarter of 2018.

AMI will deliver the following enhanced benefits to our customers:

1. Improved efficiency/reduced operating costs from automated meter reading and remote connect/disconnect features
2. Reduction in estimated bills
3. Service activation/deactivation on date requested
4. Access to usage and other information to aid in energy and cost management
5. Improved reliability through faster response to restoring power, and monitoring the system to proactively address issues that might lead to service problems.

Wherever Advanced Metering Infrastructure is deployed it is anticipated to include the following functionalities:

1. Equipment that is safe to customers, the public, and our employees and contractors
2. Increased information available to the customer (i.e. daily usage, interval usage, energy pricing, dollars spent on energy to-date, outages, etc.)
3. Remote programming for rate changes (i.e. Real Time Pricing (RTP), Power Smart Pricing (PSP), Peak Time Rebate (PTR) and Critical Peak Pricing (CPP))
4. Remote disconnect/connect to meet consumption on inactive meters and bad debt metrics

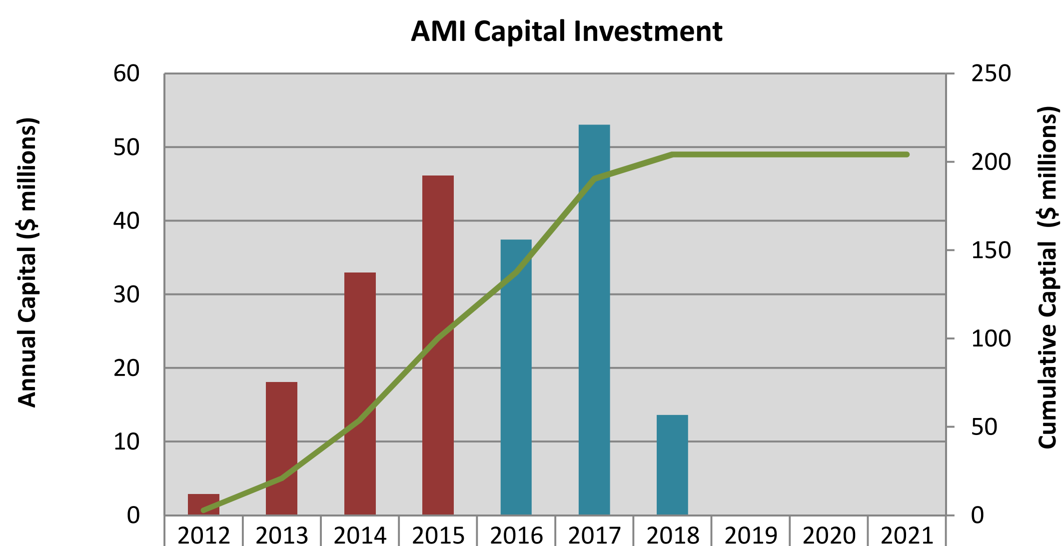
5. Remote diagnostics of the meter
6. Remote detection of grid conditions (voltage, phase angle, power outage, restoration)
7. Remote firmware upgradeability
8. Secure data and controls to ensure privacy and prevent unauthorized access
9. In/out metering capability to adapt to distributed generation and developing smart grid technologies
10. Interoperable to the extent possible and practical (i.e. network on any meter platform, information to customers over common protocols).

The most recent AMI Deployment Plan filed with the Commission provides more specific detailed information.

4.A.2: Program Capital Investments

Figure 4.A.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for 62% AMI electric deployment. In 2012-15, AIC invested $100 million in the program. In total, AIC estimates the program investment to be $204 million of capital investment, plus associated expenses over the program period. AMI will also be implemented for the associated gas meters. The investment shown represents the projected electric allocated portion of the total AMI (electric and natural gas) costs. Estimates of cost, scope, and schedules for the work may evolve over time.

Figure 4.A.2: AMI Capital Investments

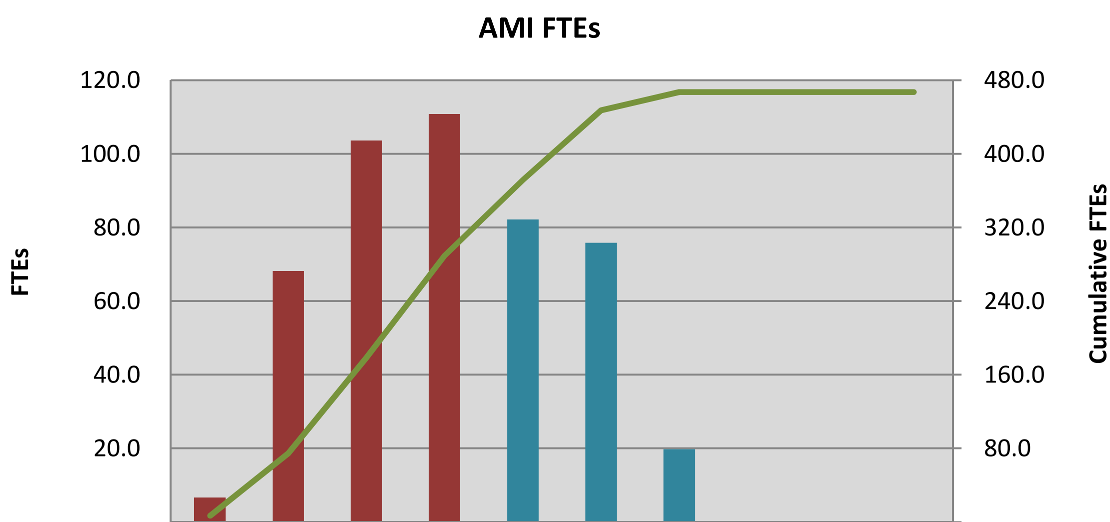


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	2.9	18.1	32.9	46.1	37.4	53.0	13.6	-	-	-
Cumulative Capital	2.9	21.0	53.9	100.0	137.4	190.4	204.0	204.0	204.0	204.0

4.A.3: Program FTEs

Figure 4.A.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 289.1 FTEs for this program in 2012-15 with 466.9 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 4.A.3: AMI Summary FTEs

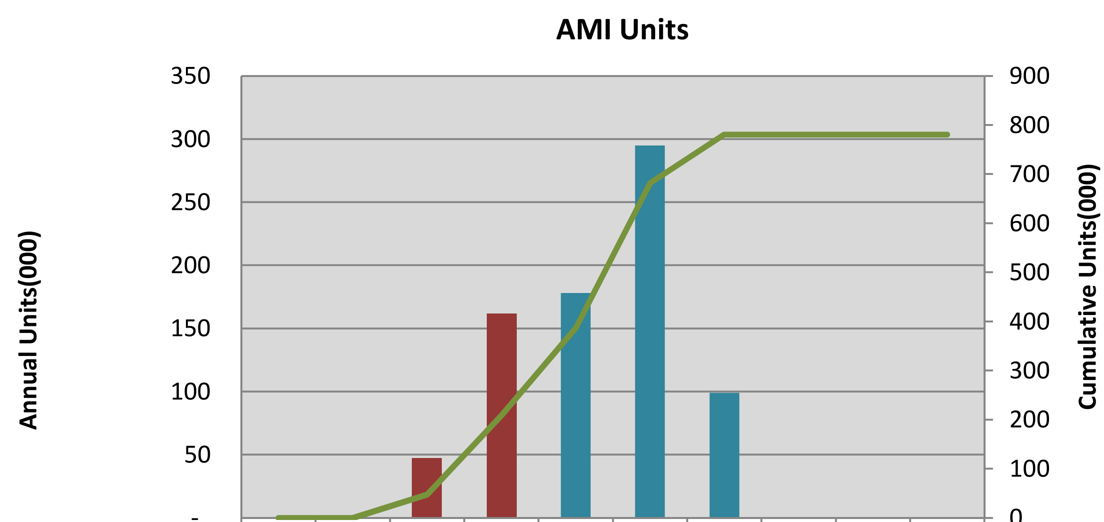


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	6.6	68.1	103.6	110.8	82.2	75.8	19.7	-	-	-
Cumulative FTEs	6.6	74.7	178.3	289.1	371.3	447.2	466.9	466.9	466.9	466.9

4.A.4: Program Schedule/Units

Figure 4.A.4 shows the estimated number of AMI electric meters to be installed annually. In 2012-15 there were approximately 209,000 units installed under this program. In total, approximately 780,000 units are projected to be installed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown below are thousands of electric meters installed.

Figure 4.A.4: AMI Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units (000)	-	-	47	162	178	295	99	-	-	-
Cumulative Units (000)	-	-	47	209	387	682	780	780	780	780

SECTION 5: Volt/VAR Optimization

SECTION 5.A: High Voltage Distribution Volt/VAR Control

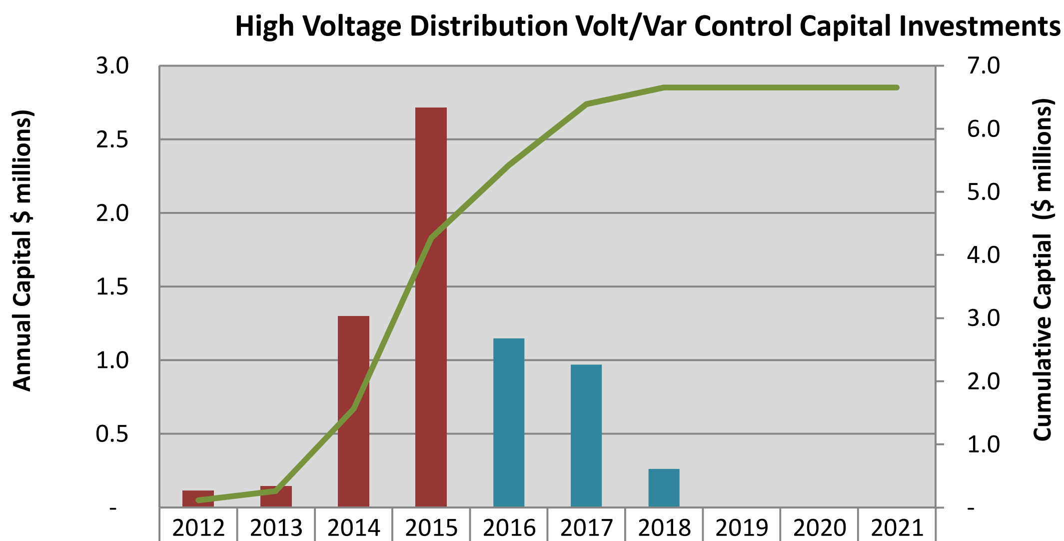
5.A.1: Program Scope

The intent of this program is to provide for Dynamic Voltage Control and optimal Reactive Power flow on the high voltage distribution system. This will result in reduced energy losses due to less reactive power flow over the system, and provide for improved voltage regulation. All of which support optimal use of assets. This technique will be applied at the high voltage distribution level (69kV-34.5kV) by controlling bulk supply transformer load tap changers (LTCs), switching capacitor banks, and controlling bulk supply voltage regulators using an automated technology solution. The initial focus will be ensuring all 34.5kV and 69kV switched capacitor banks have SCADA control and voltage indication as part of their intelligence.

5.A.2: Program Capital Investments

Figure 5.A.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the High Voltage Distribution Volt/VAR program. In 2012-15, AIC invested $4.3 million in the program. In total, AIC estimates the program investment to be $6.7 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 5.A.2: High Voltage Distribution Volt/VAR Control Capital Investments

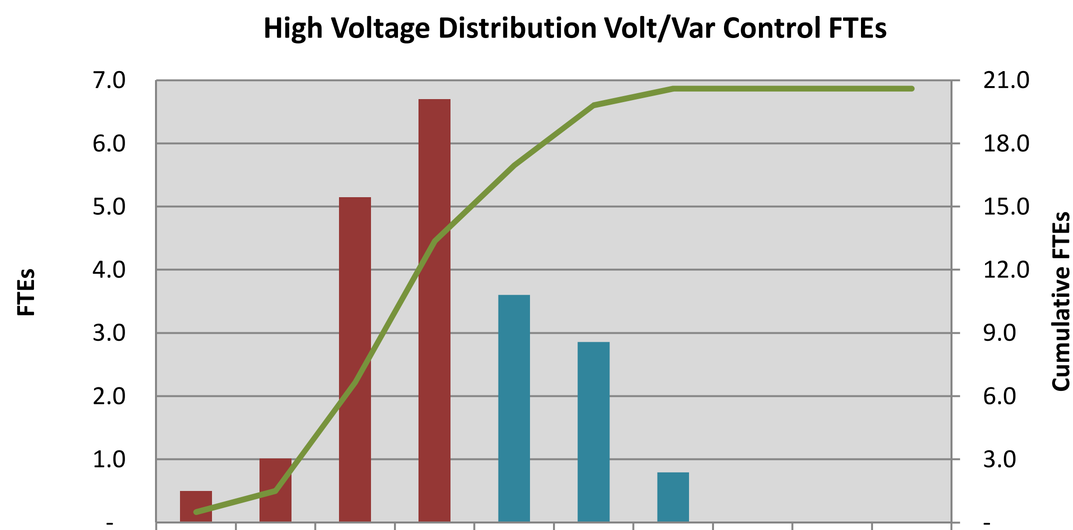


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.1	0.1	1.3	2.7	1.1	1.0	0.3	-	-	-
Cumulative Capital	0.1	0.3	1.6	4.3	5.4	6.4	6.7	6.7	6.7	6.7

5.A.3: Program FTEs

Figure 5.A.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 13.3 FTEs for this program in 2012-15, with 20.6 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 5.A.3: High Voltage Distribution Volt/VAR Control FTEs

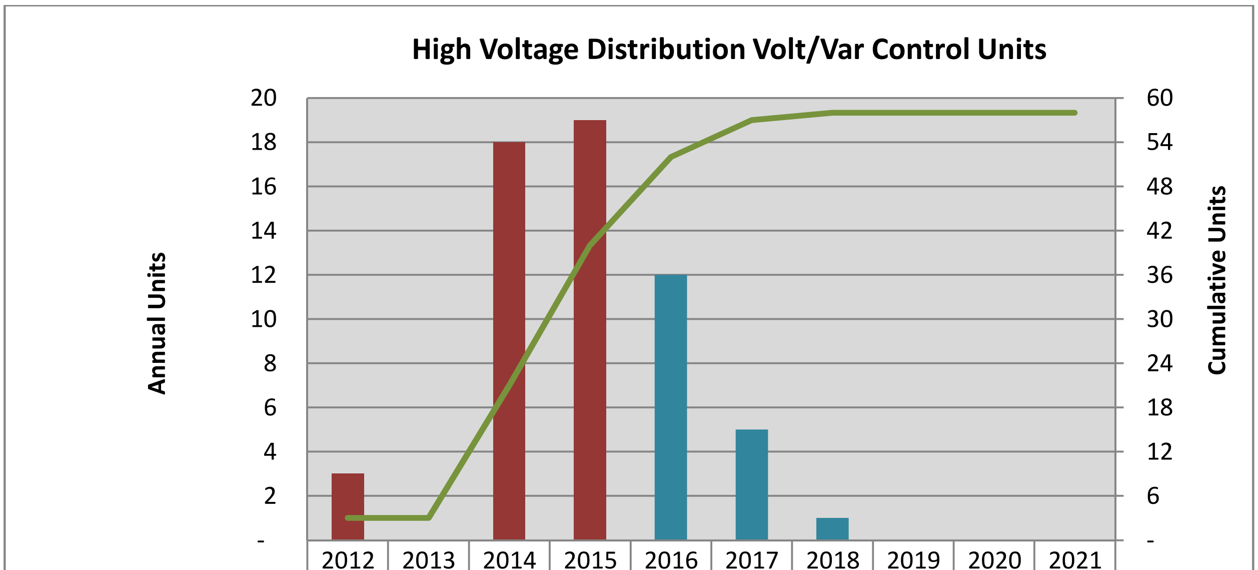


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	0.5	1.0	5.1	6.7	3.6	2.9	0.8	-	-	-
Cumulative FTEs	0.5	1.5	6.6	13.3	17.0	19.8	20.6	20.6	20.6	20.6

5.A.4: Program Schedule/Units

Figure 5.A.4 shows the actual number of units installed in 2012-15, and the projected number of projects in 2016-21. In 2012-15, there were 40 units installed under this program. In total, 58 units are projected to be completed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, units of work, and schedules for that work may evolve over time. The units shown in the chart below are locations for 2012-13, and projects for 2014-21.

Figure 5.A.4: High Voltage Distribution Volt/VAR Control Units



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	3	-	18	19	12	5	1	-	-	-
Cumulative Units	3	3	21	40	52	57	58	58	58	58

SECTION 5.B: Primary Distribution Volt/VAR Control

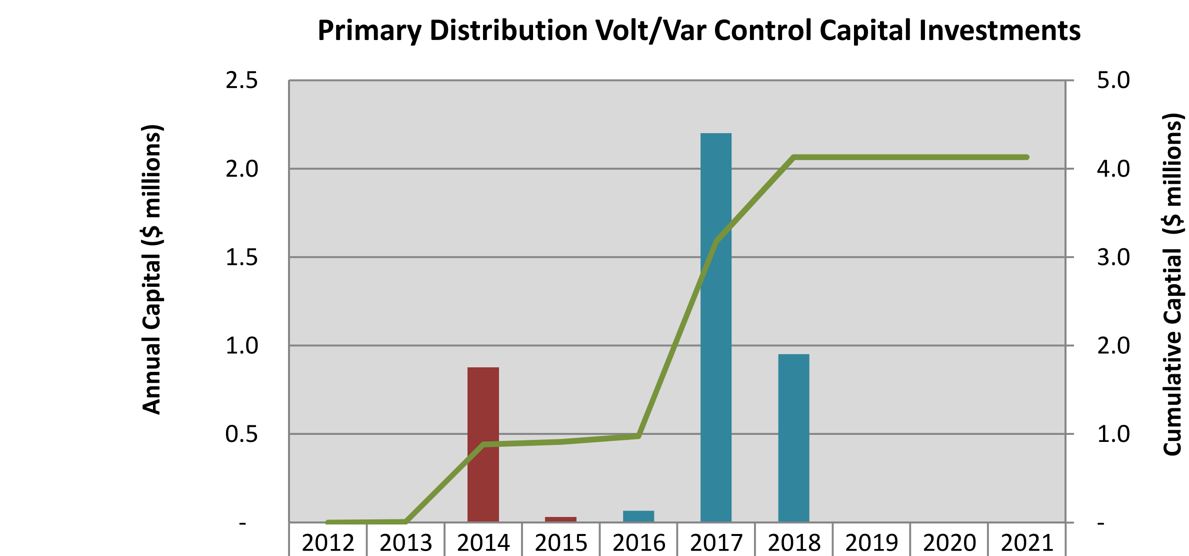
5.B.1: Program Scope

This program is intended to provide for Dynamic Voltage Control and optimal Reactive Power flow (Volt/VAR Control or Volt/VAR Optimization) on select primary distribution circuits. Phase 1 (2013 engineering with 2014 construction) focused on insuring all switched low voltage distribution capacitors in the Metro-East area that were controlled by an obsolete system would interact with the new ADMS (Advanced Distribution Management System). Phase 2 (2016/2017 engineering with 2018 construction) will focus on a Volt/VAR Optimization (VVO) deployment across several AIC primary distribution level (<15kV) circuits by controlling switching capacitor banks, voltage regulators, and possibly transformer load tap changers (LTCs) using a VVO computerized control technology solution. This may require the addition of current/voltage monitoring, SCADA at each LTC, voltage regulator, and switched capacitor bank location.

5.B.2: Program Capital Investments

Figure 5.B.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Primary Distribution Volt/VAR optimization program. In 2012-15, AIC invested $0.9 million in the program. In total, AIC estimates the program investment to be $4.1 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 5.B.2: Primary Distribution Volt/VAR Control Capital Investments

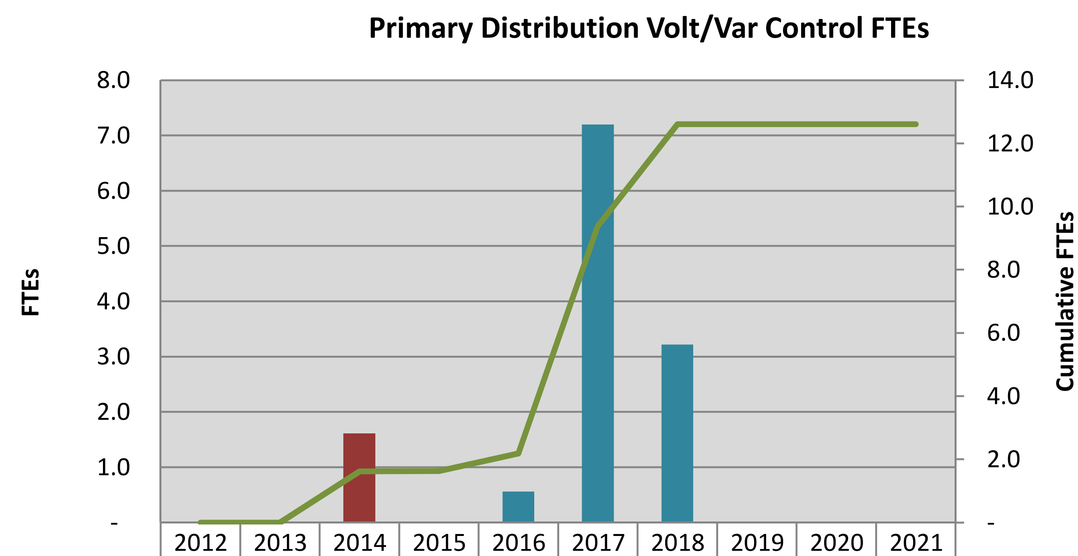


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	0.0	0.9	0.03	0.07	2.2	1.0	-	-	-
Cumulative Capital	-	0.0	0.9	0.9	1.0	3.2	4.1	4.1	4.1	4.1

5.B.3: Program FTEs

Figure 5.B.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 1.6 FTEs for this program in 2012-15 with 12.6 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 5.B.3: Primary Distribution Volt/VAR Control FTEs

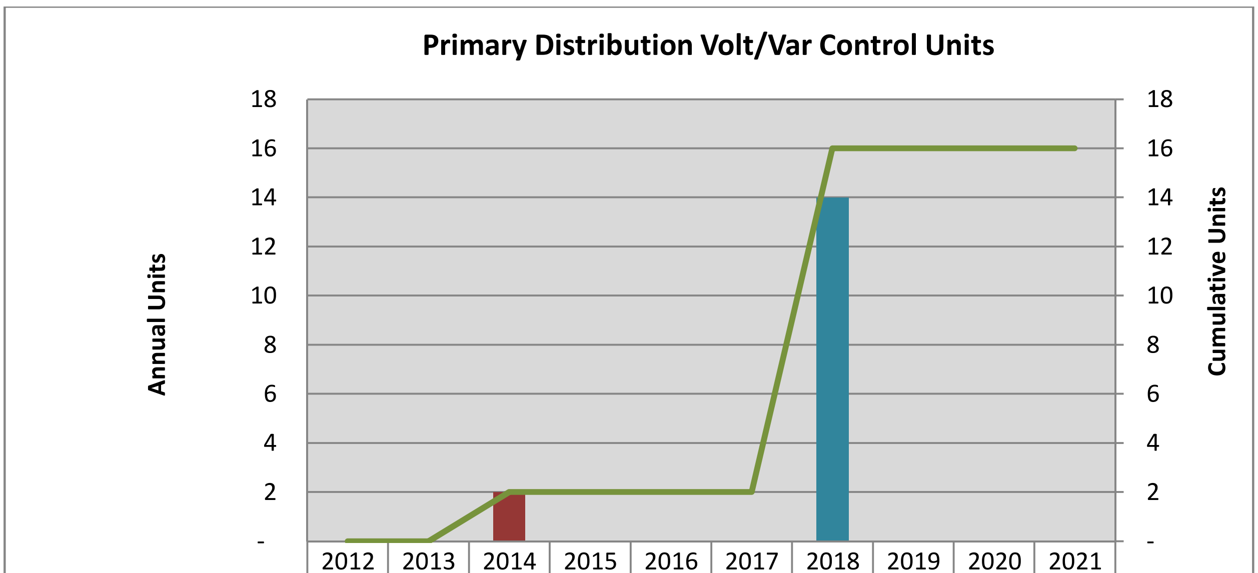


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	-	-	1.6	0.0	0.6	7.2	3.2	-	-	-
Cumulative FTEs	-	-	1.6	1.6	2.2	9.4	12.6	12.6	12.6	12.6

5.B.4: Program Schedule/Units

Figure 5.B.4 shows the projected number of primary distribution volt/VAR control projects. In 2012-15 there were 2 units completed under this program. In total, 16 units are projected to be completed from 2012-2021. This chart will serve as a tracking mechanism over the course of the program, and reflects the scope of work that has been accomplished each year, as well as the scope of work to be performed. Estimates of cost, scope, and schedules for that work may evolve over time. The units shown in the chart below are projects.

Figure 5.B.4: Primary Distribution Volt/VAR Control Units



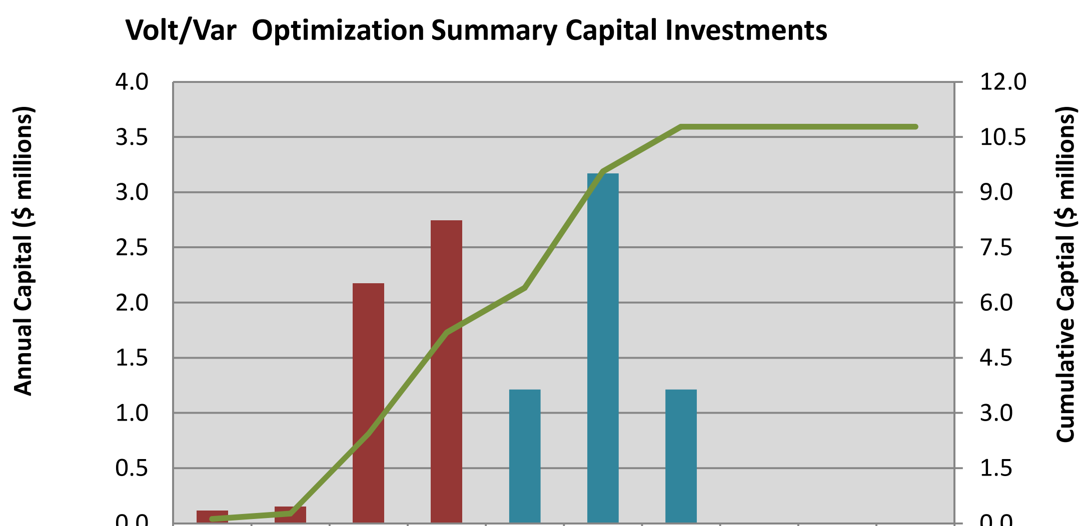
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Units	-	-	2	-	-	-	14	-	-	-
Cumulative Units	-	-	2	2	2	2	16	16	16	16

SECTION 5.C: Volt/VAR Optimization Summary

5.C.1: Summary Capital Investments

Figure 5.C.1 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Volt/VAR Optimization programs. In 2012-15, AIC invested $5.2 million in the program. In total, AIC estimates the program investment to be $10.8 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 5.C.1: Volt/VAR Optimization Summary Capital Investments

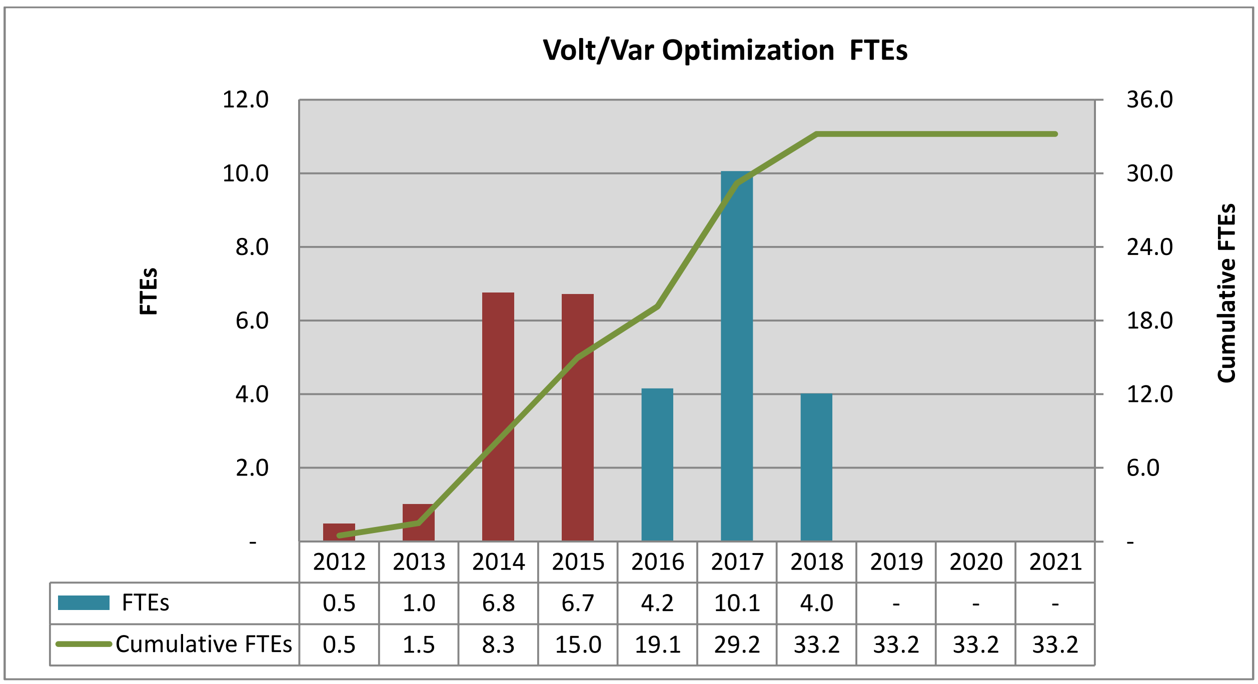


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	0.1	0.2	2.2	2.7	1.2	3.2	1.2	-	-	-
Cumulative Capital	0.1	0.3	2.4	5.2	6.4	9.6	10.8	10.8	10.8	10.8

5.C.2: Summary FTEs

Figure 5.C.2 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 15.0 FTEs for this program in 2012-15, with 33.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 5.C.2: Volt/VAR Optimization Summary FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	0.5	1.0	6.8	6.7	4.2	10.1	4.0	-	-	-
Cumulative FTEs	0.5	1.5	8.3	15.0	19.1	29.2	33.2	33.2	33.2	33.2

SECTION 6: Software and Technology Enhancements

This category of programs is intended to cover AIC technology projects that support the Smart Grid operation. These include but may not be limited to:

1. **ADMS**- An Advanced Distribution Management System (ADMS)
2. **DEW**- Replacement for the Distribution Engineering tool (DEW).

SECTION 6.A: Advanced Distribution Management System

6.A.1: Program Scope

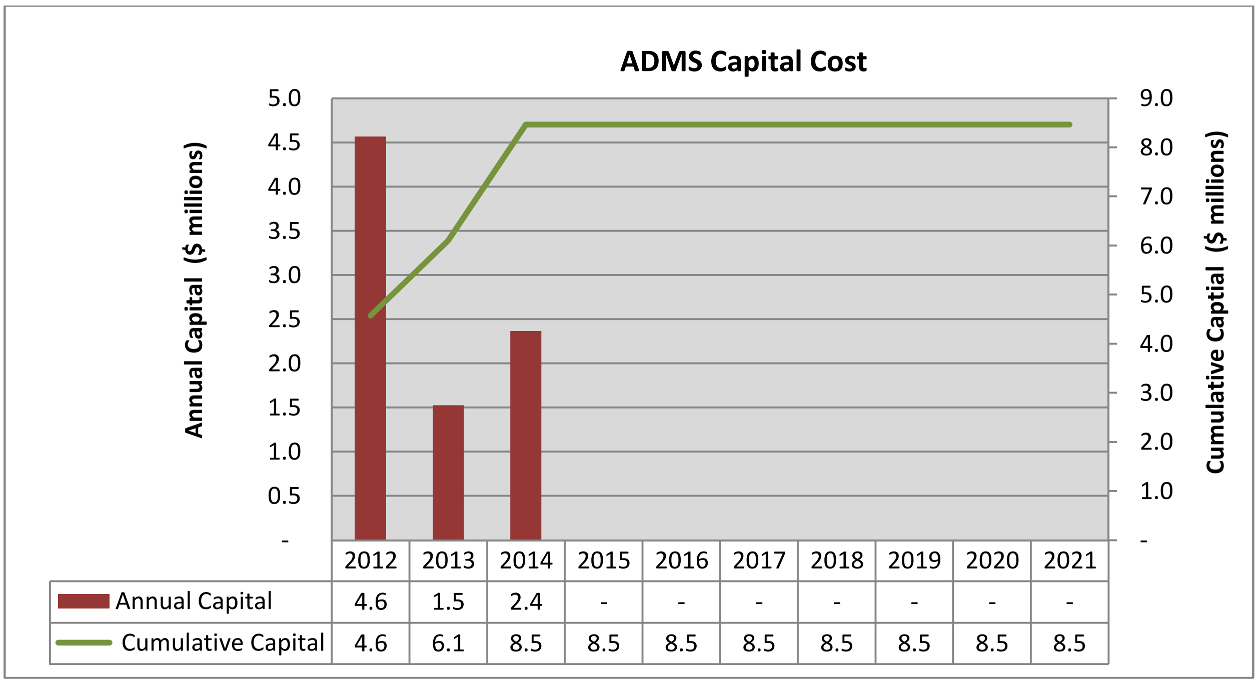
AIC implemented an Advanced Distribution Management System (ADMS) in order to replace its existing Distribution SCADA System (DDOS) and its Outage Analysis System (OAS).

The Advanced Distribution Management System (ADMS) project replaced existing systems and applications utilized in the operation of AIC's electric distribution system. ADMS is a fully integrated suite of applications that provides distribution system operators with a common user interface to monitor, control, and manage the electric distribution system and smart devices throughout the distribution system.

6.A.2: Program Schedule/Capital Investments

Figure 6.A.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the completion of the ADMS program as defined by the scope in this Plan. In 2012-15, AIC invested $8.5 million in the program. In total, AIC estimates the program investment to be $8.5 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 6.A.2: ADMS Capital Investments

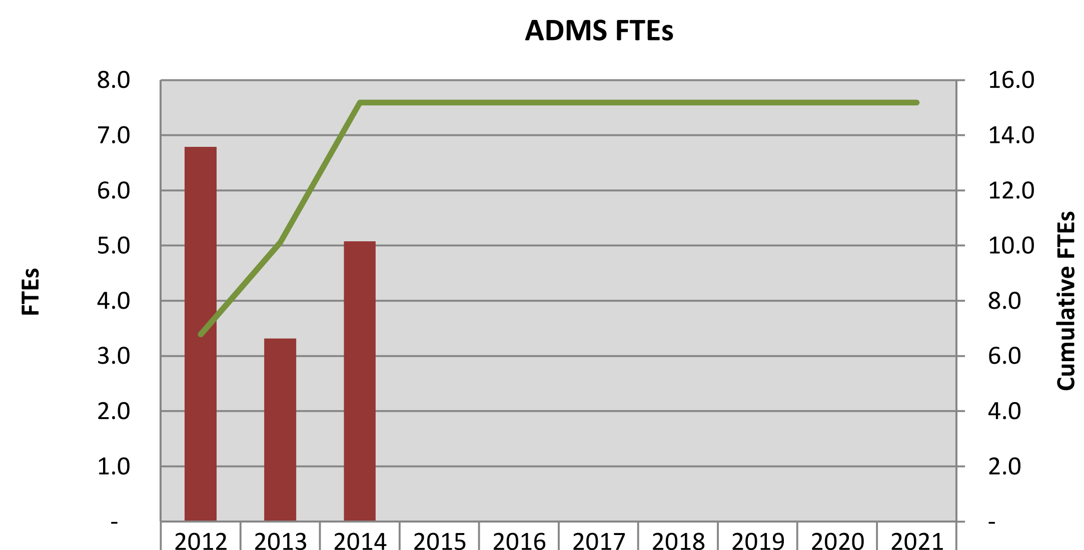


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	4.6	1.5	2.4	-	-	-	-	-	-	-
Cumulative Capital	4.6	6.1	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5

6.A.3: Program FTEs

Figure 6.A.3 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 15.2 FTEs for this program in 2012-15 with 15.2 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 6.A.3: ADMS FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	6.8	3.3	5.1	-	-	-	-	-	-	-
Cumulative FTEs	6.8	10.1	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2

SECTION 6.B: DEW Replacement

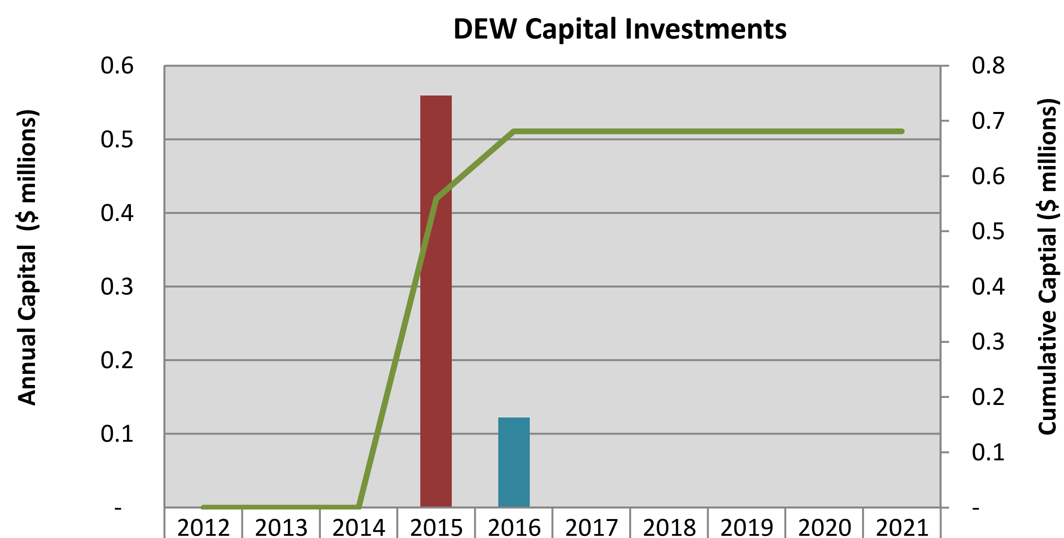
6.B.1: Program Scope

The project is to replace or update the current Engineering Analysis tool, which is called Distribution Engineering Workstation (DEW). This tool has limitations related to circuit balancing, capacitor bank placements, and voltage drop calculations. Replacement with a state of the art engineering analysis tool will effectively enable implementation of many of the smart grid programs which require distribution engineering analysis as part of the proposed project design.

6.B.2: Program Schedule/Capital Investments

Figure 6.B.2 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the completion of the ADMS program. In 2012-15, AIC invested $0.6 million in the program. In total, AIC estimates the program investment to be $0.7 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 6.B.2: DEW Capital Investments

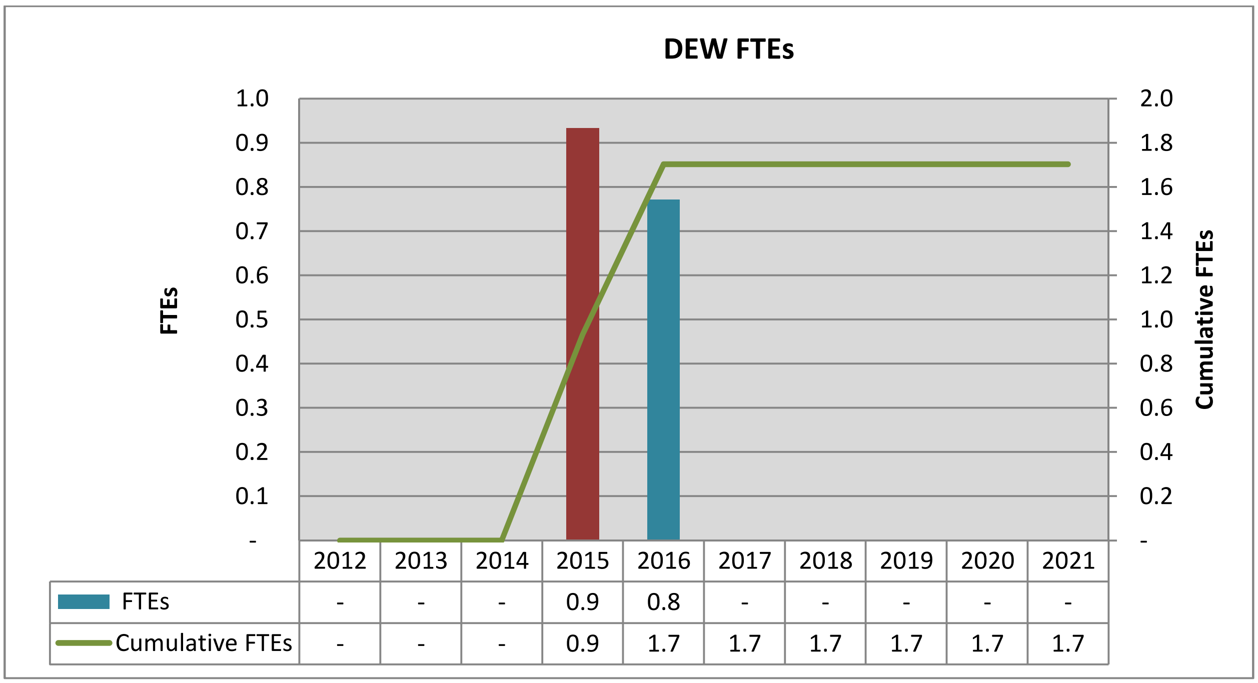


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	-	-	-	0.6	0.1	-	-	-	-	-
Cumulative Capital	-	-	-	0.6	0.7	0.7	0.7	0.7	0.7	0.7

6.B.3: Program FTEs

Figure 6.B.3 represents the estimated FTEs required to perform the scheduled scope of work. There were 0.9 FTEs for this program in 2012-15, with 1.7 annual FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to, engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 6.B.3: DEW FTEs

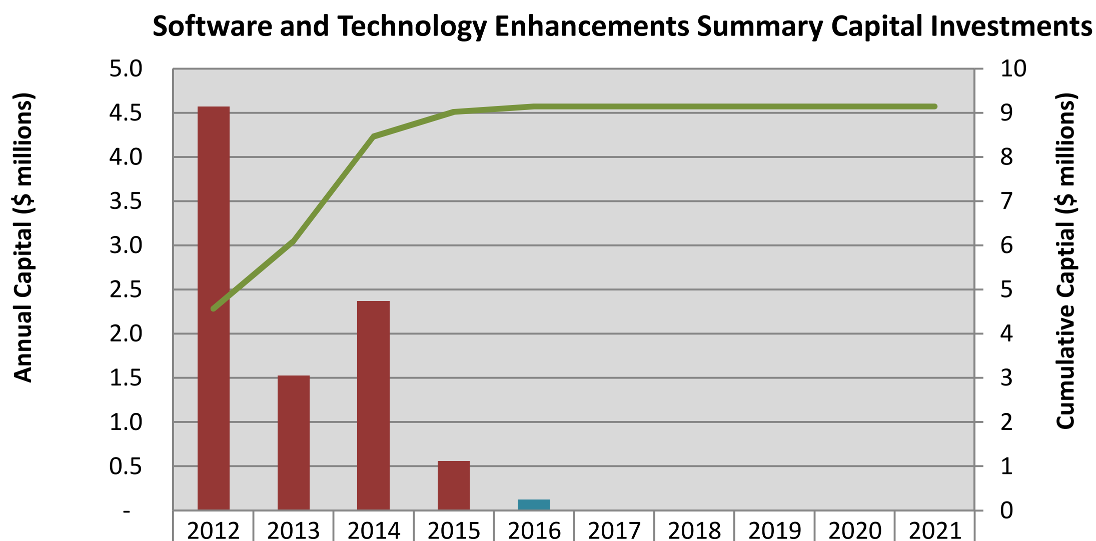


SECTION 6.C: Software and Technology Enhancements Summary

6.C.1: Summary Capital Investments

Figure 6.C.1 represents the actual capital investment for 2012-15, and the estimated capital investment for 2016-21, for the Software and Technology Enhancements programs. In 2012-15, AIC invested $9.0 million in the program. In total, AIC estimates the program investment to be $9.1 million of capital investment, plus associated expenses over the program period. Estimates of cost, scope, and schedules for that work may evolve over time.

Figure 6.C.1: Software and Technology Enhancements Summary Capital Investments

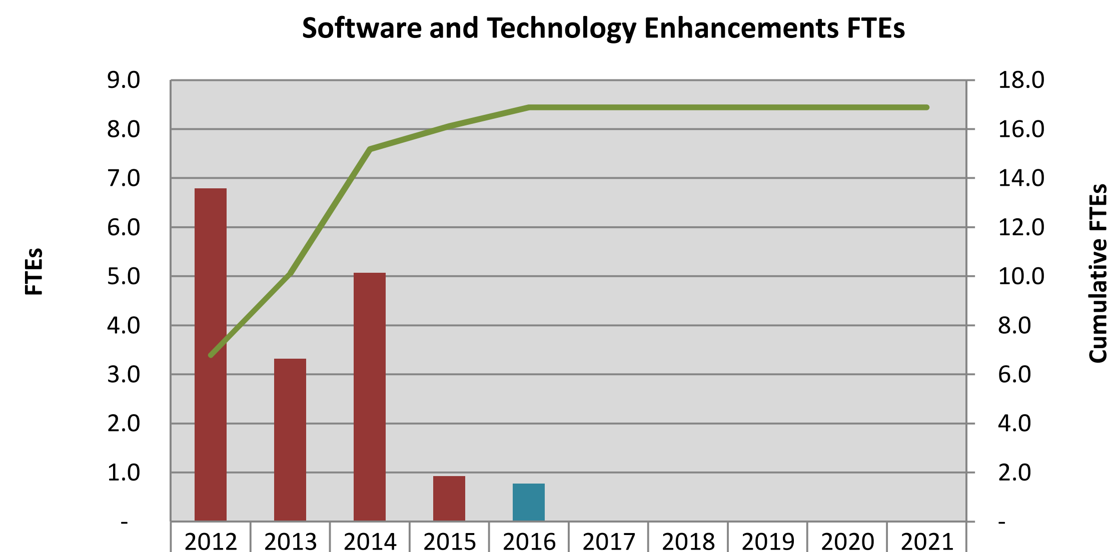


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Annual Capital	4.6	1.5	2.4	0.6	0.1	-	-	-	-	-
Cumulative Capital	4.6	6.1	8.5	9.0	9.1	9.1	9.1	9.1	9.1	9.1

6.C.2: Program FTEs

Figure 6.C.2 represents the actual FTEs utilized in 2012-15 and the estimated FTEs required to perform the scheduled scope of work for 2016-21. There were 16.1 FTEs for this program in 2012-15 with 16.9 FTEs projected in total for 2012-2021. Job classifications may include, but are not limited to engineers, technicians, work planners, finance support, safety support, scheduling support, supervision and craft.

Figure 6.C.2: Software and Technology Enhancements Summary FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FTEs	6.8	3.3	5.1	0.9	0.8	-	-	-	-	-
Cumulative FTEs	6.8	10.1	15.2	16.1	16.9	16.9	16.9	16.9	16.9	16.9

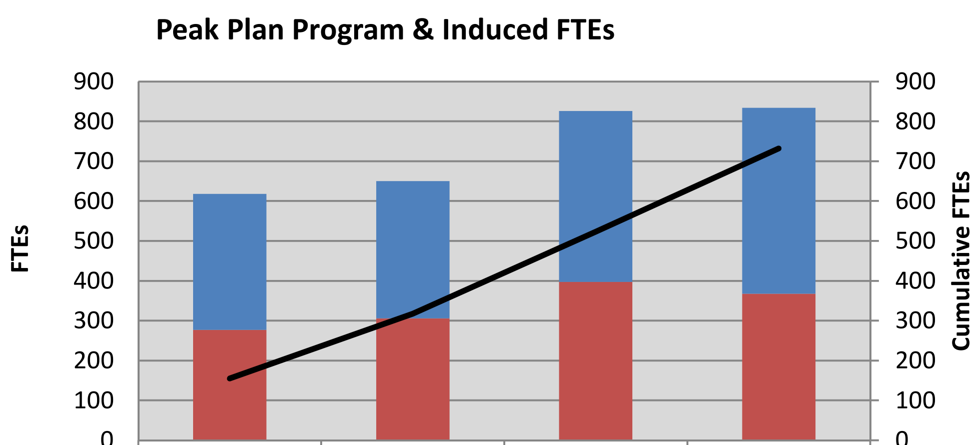
Appendix A: Full-Time Equivalent Job Creation

A.1: Requirements from 220 ILCS 5/16-108.5

As defined in Section 16-108.5(b), AIC will demonstrate that at least 450 full-time equivalent jobs in Illinois were created in a "peak program year," which is defined as the consecutive 12-month period with the highest number of full-time equivalent (FTE) jobs that occurs between January 1, 2013 and December 31, 2015. These jobs will include direct jobs, contractor positions, and induced jobs. A portion of the FTE jobs created will include incremental personnel hired subsequent to AIC becoming a participating utility and filing its initial performance based formula rate.

As of end of 2015, AIC has met and exceeded the requirement of 450 FTEs with 732.1 FTEs within the peak period of the following quarters: 4th quarter 2014, 1st quarter 2015, 2nd quarter 2015, and 3rd quarter 2015. This can be seen in the Figure A.1 below.

Figure A.1: Peak Plan Program & Induced FTEs



	2014 Q4	2015 Q1	2015 Q2	2015 Q3
Induced FTEs	341.4	344.4	428.3	466.7
Program FTEs	276.9	305.6	397.6	367.4
Quarterly FTEs	618.3	650.0	825.8	834.1
Cumulative Annual FTEs	154.6	317.1	523.5	732.1

A.2: Reporting Schedule

AIC will submit a report no later than April 1 of each year that includes any updates to the Plan. Such reports will include the number of FTE jobs created for the prior calendar year and cumulatively.

Further, AIC will report no later than 45 days after the last day of the first, second and third quarter of each year, which equates to the dates of May 15, August 14 and November 14 of each year, a verified quarterly report for the prior quarter including:

1. Total number of FTE jobs created during the prior quarter
2. Total number of employees as of the last day of the prior quarter
3. Total number of FTE hours in each job classification or job title
4. Total number of incremental employees and contractors in support of the investments included in this Plan for the prior quarter
5. Any other information that the Commission may require by rule.

A.3: Quarterly Reporting Requirements

1) Total number of FTE jobs created during the prior quarter:
    a) Captured based on parameters outlined above on hours toward specific scopes of work pursuant to the Plan for both employees and contractors.
    b) 520 hours per FTE will be used for the quarterly reporting.
2) Total number of employees as of the last day of the prior quarter:
    a) Based on parameters of direct/allocated support specific to the provision of electric service for those operating in Illinois.

b) In addition to employees, AIC will also report or make available contractor numbers within the same parameters.

3) Total number of FTE hours in each job classification or job title:

   a) Captured based on parameters outlined above on hours toward specific scopes of work pursuant to the Plan for both employees and contractors; delineated by specific classifications.

4) Total number of incremental employees and contractors in support of the investments included in this Plan for the prior quarter:

   a) Captured based on parameters outlined above on hours toward specific scopes of work pursuant to the Plan for both employees and contractors.

A.4: Full-Time Equivalent (FTE)

AIC will recognize for full time hours for an annual period 2,080 (52 weeks per year * 40 hours per week). A proration of the annual hours will be applied on smaller increments of time reporting. For example 520 hours will be used for quarterly reporting. FTEs are not deemed employee head counts and should not be confused with employment levels and trends. The 2,080 hours number will account for hours physically worked in support of the Plan as well as compensable hours for approved time off such as annual leave, holidays, sick leave, jury duty and other approved time off. To accomplish this, AIC will apply, where appropriate, certain productivity factors and manual adjustments that will compensate for hours not captured directly/otherwise; these are described further below. Additionally, these adjustments will vary based on category of FTE (employee or contractor).

Number of Hours Worked and Funded within the Annual Period for Specific Scopes of Work Pursuant to the Plan:

AIC will use the following to measure hours and ascertain equivalent FTEs:

1. Employees:
    a. Employee hours (e.g. physical workers) charged directly to work orders associated with specific scopes of work pursuant to the Plan; appropriate productivity factors will be applied for each classification based on their relative accounting; this will compensate for vacation, weather, delay time, travel time, etc.
    b. Additionally, employees who are on fixed accounting that provide direct support will charge their time directly to a work project.

c. Employees in direct support (e.g. supervisors) of those charging directly to work orders associated with specific scopes of work pursuant to the Plan will indirectly charge through established accounting relationships.

d. Employees that do not provide direct support (e.g. stores, fleet, some clerical support, safety, etc.) to specific scopes of work pursuant to the Plan will be captured through normal accounting processing of indirect overheads and loadings; a manual adjustment will then be made to ensure a portion of their time is captured for credit toward the Plan projects.

2. Contractors:

a. Contractor hours charged directly to work orders associated with specific scopes of work pursuant to the Plan. Hours will include non-productive time such as weather, delay time, etc.; may include hours not worked due to vacation, sick leave, jury duty, depending upon the specific contractor.

b. Contractors in direct support of those charging directly to work orders associated with specific scopes of work pursuant to the Plan will be charged based on a percentage allocation (plus-up).

3. Induced Jobs:

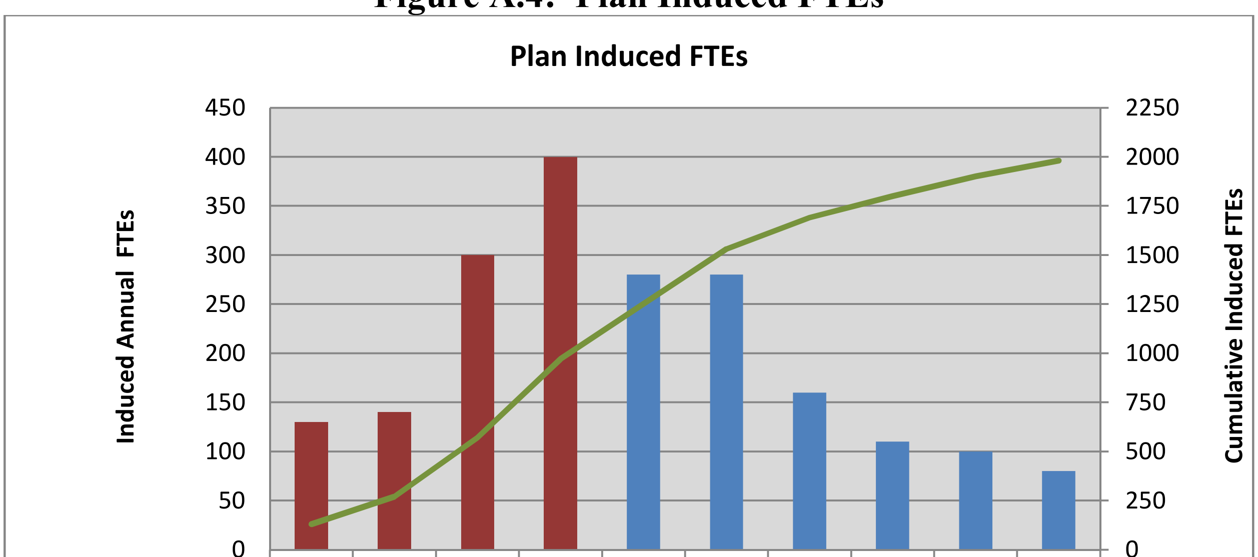
a. AIC secured through the University of Illinois a report that includes a net employment impact analysis which estimates direct and indirect job growth over the 10-year period from AIC capital and O&M expenditures for Plan projects.

b. AIC intends to apply this assessed induced job growth annually and reserves the right to apply the same on a quarterly basis (e.g. through required reporting during the peak period years).

c. Each project is currently scoped for the number of estimated FTEs it will take to perform project work. AIC anticipates it will meet a significant portion of the required 450 jobs during the peak program years through employees and contractors. Notwithstanding, a measure of induced jobs will be needed to fulfill the requirement.

d. Additionally, beyond reaching the target job requirement during the peak program years, AIC wants to fully acknowledge the induced job growth of its capital and O&M expenditures as outlined in the University of Illinois report. To that end, the induced FTEs for each program year are illustrated in Figure A.4 below. Annually, AIC will validate with University of Illinois that the job growth remains accurate based on AIC actual capital and O&M project expenditures to date and updated forecasts of capital and O&M project expenditures for the balance of the 10 year period.

Figure A.4: Plan Induced FTEs



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Induced FTE's	130	140	300	400	280	280	160	110	100	80
Cumulative	130	270	570	970	1250	1530	1690	1800	1900	1980

A.5: Definition of FTE Job Categories

- Direct jobs include employees of AIC and its affiliates.
- Contractor positions of AIC or its affiliates including non-employees, for example staff augmentation, project labor, outsourcing, consulting, physical craft contractors, clerical/administrative contractors, and construction of training facilities.
- Classifications for the employee and contractor categories may include but are not limited to engineers, technicians, work planners, finance support, safety support, scheduling support, supervision, HR support and craft.
- Induced jobs are econometrically estimated using a statistical jobs multiplier of capital and O&M spending by project over time under this Plan. Induced jobs essentially account for the multiplier effects of direct and indirect jobs created, and are a function of such jobs.

Appendix B: Summary-Level Plan Information

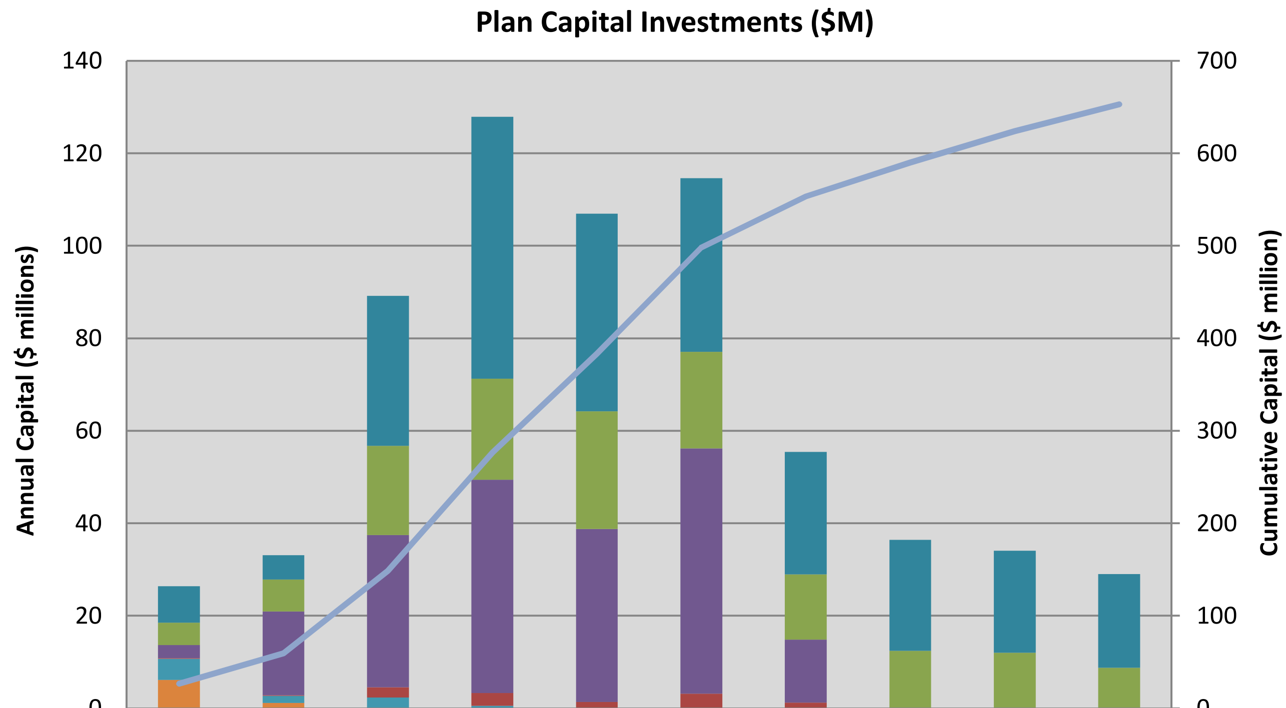
As required by Section 16-108 (b), the total estimated $653 million of cumulative capital investment under this Plan will be incremental to AICs annual capital investment program. That is, as part of the Plan, AIC will invest an estimated cumulative total of $653 million more capital than a capital investment program that invested at an annual rate defined by AIC's average capital spend for calendar years 2008, 2009, and 2010, as reported in AIC's applicable FERC Form 1s. Table B.1 and Figure B.2 shows the total 10 year capital projection for each sub category. Figure B.3 represents the actual incurred or projected total capital investment by year associated with AIC's Infrastructure Investment Program by program. Table B.4 shows the total annual units installed or projected to be installed by the Plan and Figure B.5 represents the actual or projected FTEs as appropriate.

Table B.1: Summary of Plan 10-Year Capital Investments by Sub Category

Program	Capital Projection ($M)
Infrastructure Improvements	$275.3
Distribution Automation	$146.5
AMI	$204.0
Volt/Var Optimization	$10.8
Software & Technology Enhancements	$9.1
Training Center	$7.3
Total	**$653.0**

**Numbers in the Table B.1 above are rounded. Exact numbers can be viewed in Table B.3.

Figure B.2: Plan Capital Investments Summary



	2012 Actuals	2013 Actuals	2014 Actuals	2015 Actuals	2016	2017	2018	2019	2020	2021
Infrastructure Improvementsl	7.8	5.3	32.4	56.6	42.7	37.5	26.5	24.0	22.1	20.3
Distribution Automation	4.9	6.9	19.3	21.8	25.4	20.9	14.1	12.4	12.0	8.8
AMI	2.9	18.1	32.9	46.1	37.4	53.0	13.6	0.0	0.0	0.0
Volt/Var	0.1	0.2	2.2	2.7	1.2	3.2	1.2	0.0	0.0	0.0
Software and Technology	4.6	1.5	2.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0
Training Center	6.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annual Total	26.4	33.1	89.2	127.9	106.9	114.6	55.4	36.4	34.1	29.0
Cumulative Capital	26.4	59.5	148.6	276.5	383.4	498.0	553.5	589.9	624.0	653.0

Table B.3 - Total Capital Program Investment Projected Annually for the Plan.

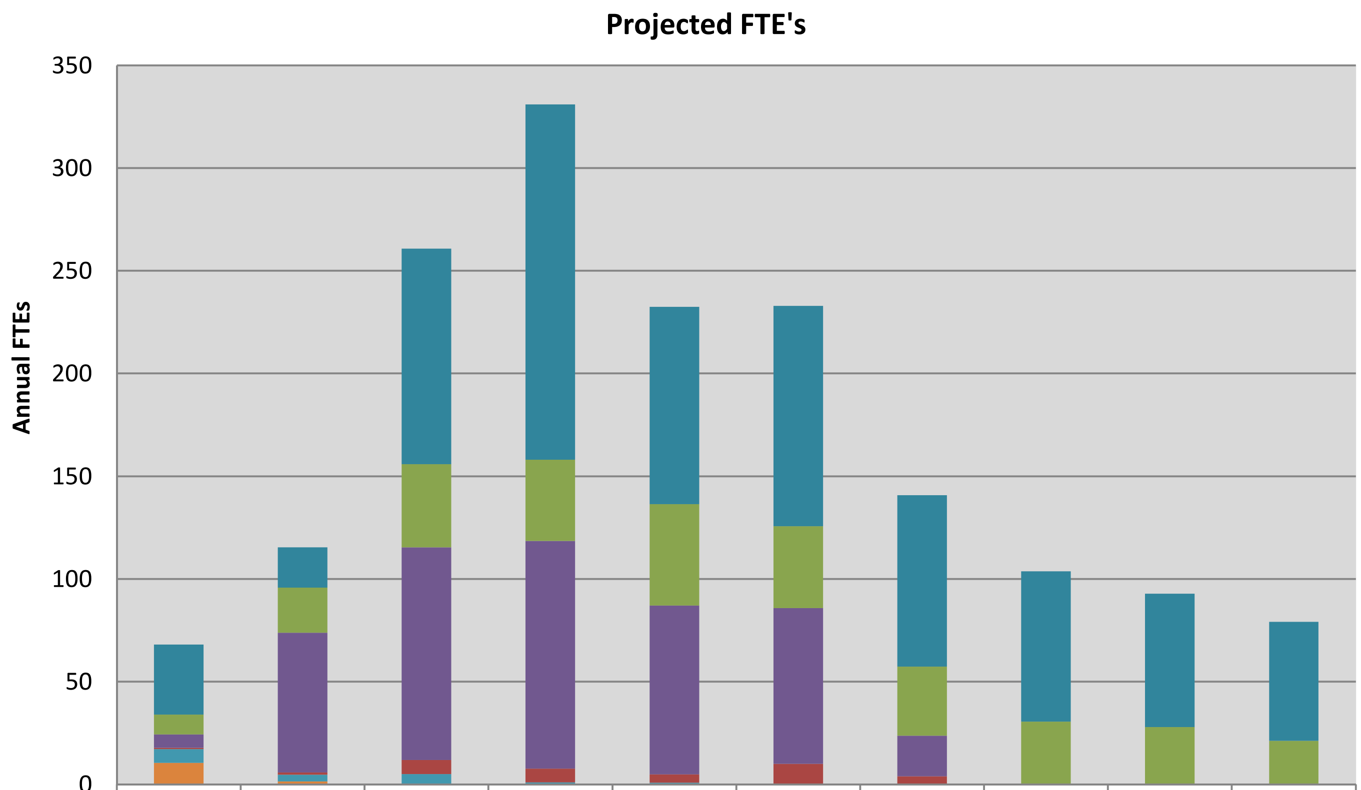
		Capital Expenditures $1000										
CPOC	**Infrastructure Improvements**	**2012 Actuals**	**2013 Actuals**	**2014 Actuals**	**2015 Actuals**	**2016 AF80**	**2017**	**2018**	**2019**	**2020**	**2021**	**Total**
ID019	Replace Primary Distribution Substation Reclosers	$ 387	$ 1,747	$ 4,265	$ 7,108	$ 3,954	$ 4,200	$ 4,217	$ 3,500	$ 3,150	$ 2,250	$ 34,778
ID024	Substation Animal Protection	$ 271	$ 11	$ 483	$ 475	$ 632	$ 500	$ 500	$ 500	$ 500	$ 500	$ 4,372
ID022	Bulk Substation Improvements	$ -	$ -	$ 138	$ 2,677	$ 1,227	$ 1,018	$ -	$ -	$ -	$ -	$ 5,060
ID013	Distribution Transformer Reserve	$ -	$ 811	$ 3,720	$ 3,158	$ 4,155	$ 3,446	$ 3,223	$ 2,767	$ 2,396	$ 1,163	$ 24,839
ID017	Tie Line Capacity - Line 6973	$ -	$ -	$ -	$ 605	$ 7,197	$ 4,478	$ -	$ -	$ -	$ -	$ 12,280
ID025	Substation Low side Auto Transfer	$ -	$ -	$ 67	$ 821	$ 1,104	$ -	$ -	$ -	$ -	$ -	$ 1,992
ID014	High Voltage Distribution Pole Reinforcement	$ 947	$ 70	$ 4,130	$ 4,438	$ 2,167	$ 1,200	$ 700	$ 700	$ 700	$ 700	$ 15,752
ID020	Replace High Voltage Distribution Breakers	$ -	$ -	$ 16	$ 715	$ 882	$ 1,000	$ 897	$ 740	$ 757	$ 775	$ 5,782
ID011	Spacer Cable Program	$ 1,752	$ 316	$ 1,506	$ 4,191	$ 1,951	$ 1,000	$ 1,220	$ 590	$ 500	$ 375	$ 13,402
ID015	Rebuild Primary Distribution Lines	$ -	$ 435	$ 3,232	$ 3,850	$ 2,454	$ 3,055	$ 1,500	$ 1,200	$ 1,050	$ 500	$ 17,276
ID010	Primary Distribution Lines Capacity Additions	$ 298	$ 95	$ 929	$ 1,894	$ 1,300	$ 2,200	$ 1,500	$ 750	$ 750	$ 500	$ 10,218
ID012	Bulk Transformer Outage Mitigation	$ -	$ 7	$ 985	$ 3,029	$ 1,426	$ 3,000	$ 200	$ 3,500	$ 200	$ 3,500	$ 15,847
ID016	Rebuild High Voltage Distribution Lines	$ -	$ 216	$ 3,284	$ 4,214	$ 5,249	$ 7,000	$ 8,000	$ 6,000	$ 8,100	$ 7,500	$ 49,563
ID021	Expand Bulk Supply Substations	$ -	$ 9	$ 3,971	$ 12,243	$ 6,117	$ 2,600	$ 2,617	$ 2,332	$ 2,600	$ 1,250	$ 33,739
ID028	Underground Primary Distribution Cable	$ 4,096	$ 1,478	$ 2,763	$ 1,723	$ 1,872	$ 1,849	$ 450	$ 450	$ 447	$ 451	$ 15,579
ID027	System Tie Primary Distribution	$ -	$ 67	$ 2,919	$ 5,502	$ 992	$ 1,000	$ 1,500	$ 1,000	$ 700	$ 600	$ 14,280
ID018	CERT Remediation	$ 94	$ -	$ (5)	$ -	$ -	$ -	$ -	$ -	$ 218	$ 215	$ 522
	Sub Total	$ 7,845	$ 5,264	$ 32,403	$ 56,643	$ 42,679	$ 37,546	$ 26,524	$ 24,029	$ 22,068	$ 20,279	$ 275,280
	Distribution Automation											
ID007	Primary Distribution Automation	$ 1,888	$ 1,762	$ 9,880	$ 11,279	$ 10,232	$ 8,300	$ 7,100	$ 5,500	$ 5,508	$ 2,725	$ 64,174
ID003	Communication Infrastructure	$ 604	$ 1,906	$ 2,847	$ 2,146	$ 1,409	$ 1,500	$ 1,500	$ 1,300	$ 1,000	$ 900	$ 15,112
ID005	High Voltage Distribution Relaying	$ 274	$ 403	$ 2,386	$ 1,877	$ 1,875	$ 1,987	$ 2,000	$ 1,939	$ 1,988	$ 1,857	$ 16,586
ID008	Distribution Substation Metering	$ 721	$ 5	$ 360	$ 1,206	$ 1,387	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 8,680
ID004	High Voltage Distribution Automation	$ 283	$ 446	$ 2,113	$ 3,061	$ 3,817	$ 2,500	$ 2,500	$ 2,663	$ 2,500	$ 2,278	$ 22,161
ID026	Underground Network Modernization	$ -	$ -	$ 1,717	$ 2,245	$ 1,751	$ -	$ -	$ -	$ -	$ -	$ 5,713
ID009	Test Bed	$ 1,095	$ 2,405	$ 8	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,508
ID002	Distributed Energy Resource Integration	$ -	$ -	$ -	$ -	$ 4,969	$ 5,595	$ -	$ -	$ -	$ -	$ 10,563
	Sub Total	$ 4,864	$ 6,928	$ 19,311	$ 21,815	$ 25,440	$ 20,882	$ 14,100	$ 12,402	$ 11,996	$ 8,760	$ 146,497
ID032	**AMI**	$ 2,861	$ 18,096	$ 32,902	$ 46,118	$ 37,450	$ 53,010	$ 13,607	$ -	$ -	$ -	$ 204,045
	Volt/Var Optimization											
ID006	High Voltage Distribution Volt/Var Control	$ 116	$ 144	$ 1,298	$ 2,714	$ 1,148	$ 970	$ 261	$ -	$ -	$ -	$ 6,651
ID034	Primary Distribution Volt/Var Control	$ -	$ 6	$ 875	$ 31	$ 65	$ 2,200	$ 951	$ -	$ -	$ -	$ 4,128
	Sub Total	$ 116	$ 151	$ 2,173	$ 2,745	$ 1,213	$ 3,170	$ 1,212	$ -	$ -	$ -	$ 10,779
	Software and Technology Enhancements											
ID029	ADMS	$ 4,569	$ 1,526	$ 2,367	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,462
ID031	DEW Replacement	$ -	$ -	$ -	$ 559	$ 122	$ -	$ -	$ -	$ -	$ -	$ 681
	Sub Total	$ 4,569	$ 1,526	$ 2,367	$ 559	$ 122	$ -	$ -	$ -	$ -	$ -	$ 9,144
ID033	**Training Facilities**	$ 6,125	$ 1,130	$ 2	$ (2)	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,255
	Total	$ 26,380	$ 33,095	$ 89,158	$ 127,878	$ 106,904	$ 114,608	$ 55,443	$ 36,431	$ 34,064	$ 29,039	$ 653,000

Table B.4 – Total Annual Units Projected to be Installed by the Plan.

Infrastructure Improvements	Units										
	Planned Total Units	2012 Actual	2013 Actuals	2014 Actuals	2015 Actuals	2016	2017	2018	2019	2020	2021
Replace Primary Distribution Substation Reclosers - (reclosers)	260	3	9	38	53	32	30	31	25	23	16
Substation Animal Protection - (substations)	85	4	0	10	11	10	10	10	10	10	10
Bulk Substation Improvements - (projects)	7	0	0	0	1	3	3	0	0	0	0
Distribution Transformer Reserve - (projects)	15	0	0	2	2	2	2	2	2	2	1
Tie Line Capacity - Line 6973	1	0	0	0	0	0	1	0	0	0	0
Substation Low side Auto Transfer - (projects)	8	0	0	0	1	2	0	0	0	0	0
High Voltage Distribution Pole Reinforcement - (poles)	1,200	276	0	305	270	96	76	44	44	45	44
Replace High Voltage Distribution Breakers - (breakers)	20	0	0	0	3	3	3	3	3	2	3
Spacer Cable Program - (miles)	32	4	0	10	8	4	2	2	1	1	1
Rebuild Primary Distribution Lines - (miles)	90	0	0	17	29	9	14	7	6	5	2
Primary Distribution Lines Capacity Additions - (projects)	28	2	1	3	4	4	5	4	2	2	1
Bulk Transformer Outage Mitigation - (projects)	14	0	0	1	5	1	1	0	3	0	3
Rebuild High Voltage Distribution Lines - (miles)	180	0	0	12	21	16	25	29	21	29	27
Expand Bulk Supply Substations - (projects)	10	0	0	0	3	2	1	1	1	1	1
Underground Primary Distribution Cable - (miles)	68	24	4	18	12	3	4	1	1	1	1
System Tie Primary Distribution - (miles)	37	0	0	8	12	5	3	4	2	2	1
CERT Remediation (projects)	7	3	0	0	0	0	0	0	0	2	2
Distribution Automation											
Primary Distribution Automation - (projects)	320	9	9	50	59	59	38	33	25	25	13
Communication Infrastructure	0	0	0	0	0	0	0	0	0	0	0
High Voltage Distribution Relaying - (terminals)	150	3	0	24	16	21	17	18	17	18	16
Distribution Substation Metering - (substations)	105	13	0	0	15	15	12	13	12	13	12
High Voltage Distribution Automation - (projects)	125	4	5	13	17	19	13	14	14	14	12
Underground Network Modernization - (protectors)	81	0	0	26	29	26	0	0	0	0	0
Test Bed	1	0	1	0	0	0	0	0	0	0	0
Distributed Energy Resource Integration (projects)	2	0	0	0	0	1	1	0	0	0	0
Advanced Metering Infrastructure											
AMI Summary (meters - 000)	780	0	0	47	162	178	295	99	0	0	0
Volt/Var Optimization											
High Voltage Distribution Volt / VAR Control - (projects)	58	3	0	18	19	12	5	1	0	0	0
Primary Distribution Volt/VAR Control - (projects)	16	0	0	2	0	0	0	14	0	0	0
Software and Technology Enhancements											
ADMS (phases)	3	2	0	1	0	0	0	0	0	0	0
Replacement of DEW	1	0	0	0	0	1	0	0	0	0	0
Training Facilities											
Training Facilities (locations)	4	1	3	0	0	0	0	0	0	0	0

The unit definition shown in ( ) is for 2014-21. The unit definition may be different for previous years.

Figure B.5: Actual FTEs 2012-15, Projected FTEs 2016-21



	2012 Actuals	2013 Actuals	2014 Actuals	2015 Actuals	2016	2017	2018	2019	2020	2021
Infrastructure Improvements	34.0	19.5	104.9	172.9	96.1	107.3	83.4	73.0	64.9	57.9
Distribution Automation	9.6	22.0	40.3	39.6	49.3	39.7	33.6	30.6	27.9	21.2
AMI	6.6	68.1	103.6	110.8	82.2	75.8	19.7	0.0	0.0	0.0
Volt/Var	0.5	1.0	6.8	6.7	4.2	10.1	4.0	0.0	0.0	0.0
Software and Technology	6.8	3.3	5.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0
Training Center	10.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annual Total	68.0	115.4	260.7	330.9	232.5	232.9	140.7	103.6	92.8	79.2

Attachments

Attachment 1: AIC MAP 2015 Annual Jobs Creation Report

Attachment 2: 2016 Plan

Attachment 3: Additional Voluntary Tracking Mechanisms